LIB

SHIVWITS

Proposed Grazing Management

Final ENVIRONMENTAL IMPACT STATEMENT

by
tment of the Interior
Land Management

IN REPLY REFER TO

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
ARIZONA STATE OFFICE
2400 VALLEY BANK CENTER
PHOENIX, ARIZONA 85073

Enclosed is Volume 2 of the Final Environmental Impact Statement (EIS) for grazing in the Shivwits Resource Area. Volume 1 is the draft EIS published earlier. Volume 2 consists of the comments received on the draft EIS and responses to those comments. It also includes the analysis of a sixth alternative in response to several comments on the draft EIS. The Less Intensive Grazing Management alternative would employ intensive grazing systems and range improvements only on allotments under existing allotment management plans. The other allotments would undergo seasonal or continuous grazing restricted to 45 percent utilization of key forage species.

This final EIS should be used with the draft for a full understanding of the analysis, comments, and responses. The comments received on the draft EIS required no changes in the analysis of the proposed action or alternatives 1 through 5.

The Arizona Strip District office of the Bureau of Land Management prepared this EIS pursuant to Section 102(2)(C) of the National Environmental Policy Act of 1969. The document describes and analyzes impacts that would result from the proposed grazing management plan and six alternatives to that plan. Thank you for your interest in this statement.

Sincerely,

Clair M Whitlock
State Director

DEPARTMENT OF THE INTERIOR

FINAL
ENVIRONMENTAL IMPACT STATEMENT
SHIVWITS GRAZING MANAGEMENT

Prepared By

BUREAU OF LAND MANAGEMENT
DEPARTMENT OF THE INTERIOR

Frank Gregg

DIRECTOR

SHIVWITS PROPOSED GRAZING MANAGEMENT

Draft ( ) Final (X) Environmental Impact Statement

Department of the Interior, Bureau of Land Management

1. Type of Action: Administrative (X) Legislative ( )

2. Abstract: The Bureau of Land Management proposes to implement livestock grazing management on approximately 1,717,000 acres of public land in northwestern Arizona. Intensive grazing management is proposed for 40 allotments and less intensive management for 10 allotments. The impact statement analyzes the environmental, social, and economic impacts of the management changes and the building of associated range improvements. The production of desirable vegetation and the total vegetation ground cover would increase. Overall watershed conditions would improve. Wildlife habitat would improve, and the numbers of big-game and nongame animals would increase. Surface water quality would improve, and sediment yield would decrease. Overall range-related income would increase in the long term. Proposed range improvements would degrade the area's scenery. Range improvements, cattle trampling, and erosion would slightly disturb archaeological and historical remains. These disturbances would be permanent and irretrievable. Range-related income, ranch values, and assessed valuation could decrease on some grazing operations.

3. Alternatives analyzed:

a. Full stocking with management
b. Stocking level by condition class
c. No vegetation manipulation
d. No action
e. Elimination of grazing on public land
f. Less intensive management of livestock grazing

4. Comments were requested from the following:

See chapter 5.

5. For further information contact:

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6. Date draft statement made available to EPA and to the public:

December 1979

Final statement made available to EPA and to the public:

July 1980

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DISTRICT MANAGER'S STATEMENT

Many of the comments received on the Shivwits Grazing Draft Environmental Impact Statement (draft EIS) pertain to details of the proposed action and alternatives rather than to the analysis of the impacts identified in the statement. Readers have commented on the proposal of specific types of grazing systems, range improvements, and alternatives to the proposal. These comments are important because they will be helpful when the management program is selected and implemented after the final EIS is published.

The grazing system provisions proposed and analyzed in the draft EIS are based upon experience with rangeland management on the Arizona Strip and upon the needs of the livestock industry as expressed by permittees. Specific grazing systems and exact numbers and locations of improvements have yet to be selected but will be determined cooperatively by permittees and resource specialists. Through this cooperative effort, sound management can be applied to the rangeland resource. The environmental impact of the improvements can be assessed when specific locations are set.

Many comments have expressed concern about "Intensive Grazing Management," "Cow Factories," and the spectrum of alternatives in the statement. In response to such concerns, this final EIS analyzes a sixth alternative. Alternative 6, Less Intensive Management, would adjust grazing to maintain utilization of the current year's vegetation growth at 45 percent. With the exception of implemented allotment management plans (AMPs), alternative 6 would not employ intensive grazing management systems. BLM would implement allotment studies to evaluate the effectiveness of the program and change management if necessary.

ALTERNATIVE 6: LESS INTENSIVE MANAGEMENT OF LIVESTOCK GRAZING

Less intensive management is a reduced degree of BLM management that monitors vegetation response and regulates livestock numbers, kind of animals, and grazing season.

Alternative 6 proposes continuous as well as seasonal grazing, limiting utilization to 45 percent of the current year's vegetation growth on key species. Table 1 displays the following data for each allotment in the EIS area: vegetation allocations, periods of use, adjustments in livestock use, and estimated increases in AUMs 15 years after implementation. BLM will determine livestock turnout dates on spring and summer ranges by range readiness checks where applicable and in cooperation with livestock operators.

Existing allotment management plans (AMPs) would remain in effect and be fully implemented as outlined in the proposed action, but no new AMPs would be implemented. Future range improvements would be limited to those determined to benefit the range and those needed to fully implement existing AMPs. (See draft EIS, table 1-6, page 27, for scheduled improvements for existing AMPs.)

Table 2 summarizes improvements needed to implement existing AMPs, approximate costs, and acres temporarily disturbed and permanently committed.

All range improvements would be subject to benefit-cost analysis, and only cost-effective improvements would be installed.

Alternative 6 would rely heavily on studies and evaluations. BLM would begin studies the first year after the final EIS is filed. Stocking levels would be monitored closely to maintain 45 percent utilization, and livestock grazing would be adjusted when reliable utilization data are obtained.

BLM would carefully monitor trend, utilization, actual use, and weather to determine the need for a change in management. Should a change be needed, BLM would cooperate with the livestock permittee. Such change might involve implementing intensive grazing management, changing season of use, or installing range improvements.

The proposed action's provisions for ephemeral grazing would also apply to alternative 6.

This section supplements chapter 3 — Environmental Consequences — of the draft EIS. It analyzes the probable impacts of alternative 6, Less Intensive Management. In addition to the assumptions on page 95 of the draft EIS, this impact analysis assumes that annual

TABLE 1
LIVESTOCK GRAZING SUMMARY: LESS INTENSIVE MANAGEMENT OF LIVESTOCK GRAZING

	ID No.	Average 5-Yr. License**	Estimated Livestock Carrying Capacity	Initial Livestock Stocking AUMs	Wildlife AUMs	Resource Conservation	Period of Use	Adjusted Livestock AUMs	Total Estimated Increased AUMs After 20 Years
Little Tank*	4853	662	772	575	16	197	YL	-87	96
Lower Hurricane*	4837	4,815	6,420	4,815	151	1,605	YL	0	526
Mud and Cane	4850	4,883	3,779	3,401	860	378	YL	-1,482	1,240
Black Rock*	4841	1,192	1,489	993	661	496	YL	-199	750
Cottonwood	4809	1,791	1,831	1,648	78	183	YL	-143	608
Diamond Butte	4833	346	349	314	21	35	YL	-32	87
Duncan Tank*	4820	442	630	418	47	212	YL	-24	104
Crassie Mountain	4825	5,704	4,593	4,134	1,763	459	YL	-1,570	501
Hidden and Sullivan	4817	1,782	1,910	1,719	499	191	YL	-63	0
Ivanpah*	4858	827	806	523	131	283	YL	-304	187
Last Chance	4815	880	210	189	171	21	YL	-691	0
Link Spring	4819	1,290	1,025	923	309	102	YL	-367	0
Little Wolf*	4814	305	427	282	172	145	6/1-10/31	-23	0
Mt. Trumbull*	4826	1,114	1,687	1,114	54	573	2/1-11/30	0	0
Parashaunt*	4829	3,292	4,988	3,292	1,372	1,696	YL	0	1,157
Pa's Pocket	4848	1,034	760	684	154	76	12/1-5/31	-350	112
Sullivan Canyon*	4810	1,232	1,046	938	458	108	YL	-294	598
Sunshine	4863	996	1,360	1,224	29	136	YL	+228	580
Wildcat	4854	8,052	5,055	4,550	2,915	505	YL	-3,502	85
Wolfhole Lake	4823	723	1,131	1,018	220	113	YL	+295	230
Beaver Dam Slope*	4828	802	772	772	30	0	12/1-5/31	-30	0
Blake Pond	4813	1,488	1,264	1,138	42	126	YL	-350	227
Clay Spring*	4845	1,142	1,106	1,106	71	0	YL	-36	123
Jackson Tank*	4830	737	673	673	35	0	9/16-6/15	-64	303
Jump Canyon	4801	2,177	1,281	1,153	303	128	10/20-6/15	-1,024	38
Littlefield Community	4827	3,501	1,821	1,639	1,165	182	YL	-1,862	0
Lizard	4857	168	210	189	0	21	10/16-6/15	+21	157
Mainstreet*	4805	8,333	6,690	6,690	524	0	YL	-1,643	2,608
Mesquite Community	4832	2,568	2,153	1,938	409	215	YL	-630	0
Mormon Well	4844	326	525	473	29	52	11/16-2/28	+147	0
Mule Canyon	4821	1,023	603	543	107	60	YL	-480	178
Mosby-Nay	4836	1,155	648	583	9	65	YL	-572	79
Pakoon Spring	4800	1,126	1,078	970	24	108	YL	-156	184
Penns Well	4852	719	589	530	227	59	YL	-189	57
Poverty*	4808	5,337	4,783	4,783	582	0	YL	-554	1,916
Sullivan Tank	4816	452	329	296	168	33	YL	-156	0
Tassi	4851	1,087	2,292	2,063	645	229	YL	+976	0
Toquer Tank*	4861	1,073	1,073	1,073	54	0	11/1-5/31	0	257
Whiterock-Soapstone*	4804	1,259	1,259	1,259	141	0	10/15-6/30	0	0
Wolfhole Canyon	4811	2,980	2,851	2,566	320	285	YL	-414	419
Wolfhole Mountain	4839	2,279	1,869	1,682	361	187	YL	-597	586
Littlefield Free Use	4843	129	120	108	2	12	12/15-2/28	-21	22
Iverson	4834	36	47	42	1	5	YL	+6	51
Mustang Spring	4859	553	511	460	127	51	YL	-93	93
Pakoon	4802	987	1,099	989	53	110	2/1-6/30	+2	0
Pat's Pond	4862	61	71	64	0	7	6/1-2/28	+3	22
Purgatory	4831	435	275	248	5	27	11/15-3/15	-187	0
Quail Canyon	4856	307	431	388	63	43	10/1-3/31	+81	109
Rosenberry	4846	172	190	171	0	19	YL	-1	87
Shelly	4807	86	58	52	12	6	6/1-6/30 11/1-11/30	-34	32
Snyder	4806	80	73	66	0	7	10/20-12/1 6/15-10/15	-14	67
Totals:		83,940	77,012	67,461	15,590	9,551		-16,479	14,476

*Implemented AMPs.

**Represents an average of available actual use data for allotments with implemented AMPs and the 5-year licensed use on all remaining allotments. All use is by cattle.

TABLE 2
SUMMARY OF PROPOSED DEVELOPMENT, COSTS, AND ACRES DISTURBED

Improvements	Number	Unit	$ Cost	Average Acres Disturbed/ Unit	Total Acres Temporarily Disturbed	Total Acres Permanently Committed
Water Developments	18	No.	128,700	0.6	10.8	5.4
Fences	7.7	miles	16,940	0.5	3.9	0.8
Land Treatments	31,570*	acres	1,153,260	31,570	31,570	31,570
Two-Track Road	8.0	miles	**	0.5	4.0	4.0
Total			1,298,900		31,588.7	31,580.2

*If determined to be cost effective. **No cost involved.

utilization of key forage plants will not exceed an average of 45 percent on allotments under less intensive management and 50 percent on allotments under AMPs.

Alternative 6 is predicted to have no significant impacts on geology, topography, climate, and air quality. Table 3 compares long-term major impacts of the proposal and alternatives.

VEGETATION

SUMMARY

Overall, alternative 6 would benefit vegetation in the EIS area, having impacts similar to the proposed action except in range condition acreage and overall production. (See the Proposed Action column of table 3-1, page 98, in the draft EIS for the effects of alternative 6 on each vegetation subtype.) Overall key species composition would increase from 14 to 17 percent, and range condition would improve. Range in good condition would increase from 263,802 to 439,646 acres. If the proposed land treatment is applied, the range in good condition would increase to 471,216 acres. Fair condition acres would decrease from 538,748 to 416,565. Poor condition acres would decrease from 1,046,348 to 994,684. With land treatment, poor condition acres would drop to 963,114.

Overall average annual production would increase from 55 to 61 air dry pounds per acre. Average annual forage production on the 31,570 acres proposed for land treatment would increase from 50 to 94 pounds per acre. Overall production would increase to 92 million air dry pounds (114,562 AUMs).

Refer to the Proposed Action column of table 3-1, page 98, in the draft EIS for the effects of this alternative on each vegetation subtype. The only difference exists in the range condition acreage and overall production, both of which are shown above.

Alternative 6 would improve most vegetation subtypes by one condition class. The following subtypes when in poor condition, however, would not improve: sagebrush, pinyon-juniper, desert shrub, creosotebush, blackbrush, mountain shrub, conifer, and shadscale. In addition, pinyon-juniper, blackbrush, and conifer in fair condition would not improve. The condition of 31,570 acres of sagebrush, pinyon-juniper, and blackbrush under land treatment would change to good.

The desert shrub, creosotebush, and blackbrush types would change little from current conditions. They occur in an arid region, which allows little change in perennial plants. Annual plants, however, change dramatically with rainfall.

The conifer, pinyon-juniper, and sagebrush subtypes all occur in a rainfall zone that allows much change if canopies remain open. These species, however, are generally the climax species for these areas; once they are dominant and increasing, grazing management can only slow their invasion or reinvasion.

All methodologies used to determine changes in vegetation subtypes under this alternative are the same as discussed in the draft EIS.

ANALYSIS AND SUPPORTING DATA

The following data show the rationale behind the assumption that yearlong and seasonal grazing without pasture rotation under 45 percent utilization can improve species composition, range condition, and usable forage production.

The Arizona Interagency Range Committee 1973 (1974) described issues concerning yearlong systems:

> The shortcoming of yearlong grazing even at conservative stocking levels is that favorite plants and favorite areas tend to be regrazed and are thereby kept in relatively low condition.
>
> Except for the problem of distribution, yearlong grazing at appropriate stocking levels is a reasonably good system. Many alternatives that have been tried have not been superior to yearlong grazing mainly because recovery during rest periods was offset by the impact of more rapid forage removal during the grazed period.

Under alternative 6 the range would overall improve, but not around stock ponds and favorite gathering areas. In areas more remote from water, vegetation under less intensive grazing would improve more than under rotation grazing.

According to Vallentine (1979),

> On a semi-desert, big sagebrush-wheatgrass type in southern Wyoming implemented under operational ranching conditions rather than as a strictly controlled research project, comparisons were made between 4-pasture rest-rotation, 2-pasture deferred, and one-pasture continuous systems grazed by cattle from spring until winter (Gibbens and Fisser 1975). Following a 25 percent reduction in permitted grazing at the beginning of the study, all units improved in range condition without apparent effect on wildlife populations. After 9 years in the study, Gerhart and Fisser (1977) concluded that present stocking rates had not stressed the plant communities enough to detect difference between grazing systems since all treatments had improved range conditions.

The average utilization after 5 years was found to be 36 percent on perennial grasses and 26 percent on perennial grass, forbs, and browse conbined. Table 4 summarizes studies on allotments under implemented AMPs. Vegetation has trended up on some yearlong and season-long allotments on the Arizona Strip. Allotments such as Fuller Road are not under rest-rotation grazing but have been running with about 30 percent reduction in normal livestock numbers. The trend plots demonstrate an upward trend in key species at an average utilization of 48 percent. The severe drought of 1977, accompanied by grazing, however, reduced the ground cover of key species. The same amount of ground cover loss also occurred in rest-rotation allotments during the drought.

According to Paulsen (1975),

> Research and experience have shown that continuous yearlong grazing results in overuse of the forage and deterioration of the forage stand in areas of livestock concentration, while forage in remote parts of the range is largely unused. Still, if average utilization of the most important perennial grasses over the entire range unit does not exceed 40 percent at the end of the grazing year, immediately before the flush of new growth

TABLE 3
COMPARISON OF LONG-TERM MAJOR IMPACTS OF THE PROPOSAL AND ALTERNATIVES

Environmental Element	Unit	Present Status	Proposed Action	Alternative 1 Full Stocking	Alternative 2 Stocking by Condition Class	Alternative 3 No Vegetation Manipulation	Alternative 4 No Action	Alternative 5 Elimination of Grazing	Alternative 6 Less Intensive Management
Vegetation									
Range Condition	Acres								
Good		263,802	568,156	438,356	570,846	439,646	315,448	439,646	471,216
Fair		538,745	414,565	488,635	414,576	414,565	487,102	414,565	414,565
Poor		1,046,348	866,174	921,904	863,473	994,684	1,046,345	994,684	963,114
Production	Pounds*	84 million	100 million	96 million	107 million	92 million	84 million	82 million	92 million
Soils									
Disturbance	Acres	31,583	130,855	130,855	130,855	2,345	31,583	65	31,580
Sediment Loss	Ac.Ft./Year	881.4	815	828.0	802.2	862.8	939.0	768.1	819.7
Critical or Severe Erosion Condition	Acres	55,831	17,786	23,832	17,786	23,832	103,839	17,113	35,022
Wildlife									
Mule Deer	Acres	Unknown							
Improve			387,850	281,103	665,516	665,558	132,675	763,663	132,675
Decline			20,120	225,047	20,157	20,120	618,913	0	139,000
Static			8,986	8,986	8,986	8,986	0	0	479,913
Pronghorn Antelope	Acres	Unknown							
Improve			182,969	182,339	208,733	208,733	148,506	212,251	148,506
Decline			23,817	50,211	23,817	23,817	68,241	0	68,241
Static			4,494	4,494	4,496	4,496	0	0	0
Desert Bighorn	Acres	Unknown							
Improve			95,629	16,836	95,629	95,629	14,486	197,197	17,197
Decline			8,791	44,016	8,791	8,791	108,299	0	180,000
Static			11,213	11,213	11,213	11,213	0	0	0
Desert Tortoise	Acres	Unknown							
Improve			133,530	36,903	133,530	133,530	30,140	206,744	133,530
Decline			66,290	162,917	66,290	66,290	169,680	0	66,290
Static			0	0	0	0	0	0	0
Nongame	Acres	Unknown							
Improve			1,056,522	231,809	1,056,522	1,169,448	599,717	1,644,364	1,056,522
Decline			262,040	864,101	262,040	149,114	1,248,876	0	262,040
Static			101,181	100,911	101,181	101,181	0	0	101,181
Riparian	Acres	Unknown	Static	Decline	Static	Static	Decline	Improve	Static
Livestock Grazing	AUMs	83,940	86,527	94,181	93,610	73,143	108,739	0	80,065
Calf Crops	Change %		+ 15	+ 5	+ 15	+ 10	- 10	-	+ 13
Calf Weaned Weights	Change Pounds		+ 35	+ 17	+ 40	+ 28	- 15	-	+ 31
Cull Cow Weights	Change Pounds		+ 72	+ 30	+ 90	+ 45	- 90	-	+ 59
Death Loss	Change %		- 25	0	- 25	- 20	+ 50	-	- 22
Economics									
Income from Livestock	$ Change from present	-	+300,000	+64,000	+457,000	-61,000	-323,000	-717,000	+ 86,000
Revenue (BLM)	$ Change	-	- 11,000	+ 3,900	+ 1,200	-33,300	No change	-158,700	- 3,800
Social Conditions									
Attitudes and Values		Conflict between different publics and BLM	Decrease in conflicts	Decrease in conflicts	Decrease in conflicts	Decrease in conflicts	Continued conflict between different publics and BLM	Significant increase in conflicts	Decrease in conflicts
Rancher Lifestyle		Existing lifestyle (See affected environment)	Lifestyle somewhat jeopardized	Lifestyle somewhat jeopardized	Lifestyle moderately jeopardized	Lifestyle somewhat jeopardized	No change	Lifestyle significantly jeopardized	Lifestyle slightly jeopardized

* Pounds of usable air dry forage

This table supersedes table 1-8, page 34, in the draft EIS.

TABLE 4
SUMMARY OF STUDIES ON ALLOTMENTS UNDER IMPLEMENTED AMPs

Allotment	Average Utilization (Percent)	Range of Utilization (Percent)	Years of Trend Data	Average Percent Increase in Key Species	Percent Range of Key Species Change
Fern Tank	52	51-55	10	+13	+2 to +22
Fuller Road*	48**	40-53	3	+10	-10 to +40 YL
Tuweep	55	47-66	3	+1	-56 to +30
Clayhole	55	51-62	5	+5	-73 to +88
Buffalo Tank*	57	52-62	3	+1	-10 to +13 YL
Cedar Knoll	59	48-74	5	-13	-1 to -33
House Rock	51	40-72	6	-14	-100 to +84
Vermillion Cliffs	58	55-64	3	+3	-38 to +43
White Sage	-	-	3	-13	-58 to +17

*Non-rotation grazing.
**1979 utilization amounted to 25 percent. Latest date for data is 1977.

from summer rains begin, continuous yearlong grazing is less destructive than some of the alternatives that have been tried. Rotation systems may fail because the rest periods are too short, too infrequent, or at the wrong season to allow forage plants to recover from grazing. The early spring period is especially critical for forage plants because cattle and wildlife, which are particularly hungry for nutritious green herbage at that time, regraze the fresh new growth on plants that have been previously grazed.

Martin (1975) reported that Arizona cottontop, bush muhly, black grama, sideoats grama, tall three-awn, and green sprangletop were all favored by moderate-to-light grazing and that 40 percent utilization of perennial grasses would maintain good grass composition over most of the range.

Johnson (1966) found that utilization exceeding 40 to 45 percent of principal forage species led to undesirable changes in plant composition.

Cable (1975) reported utilization findings of other range scientists: Humphrey's (1964) recommendation to leave at least 25 percent of current year twig growth at the end of season and Rich and Reynold's (1963) suggestion that 40 percent utilization of perennial grass on chaparral would maintain grass vigor.

Ellison (1956) suggested the use of spring-summer rest 2 years in 3 as a safety factor when forage utilization is restricted to 50-60 percent.

Martin (1973) set stocking for the Santa Rita three-pasture rest-rotation grazing system at the same level as though an area were properly grazed yearlong by "the average number of cattle required to consume 40 percent of the prennial grass herbage production during the past ten years." The proper use level was established by long-term utilization and actual use studies.

Cook and Stoddart (1963) reported no significant difference between the overall effect of light utilization (25 percent) and moderate utilization (50 percent on salt desert vegetation. Throughout the year, however, they found 75 percent utilization significantly more harmful than 50 percent utilization.

Further study on salt desert plants by Cook (1971) revealed 75 percent defoliation to be too severe for all desert plants at all times and 50 percent defoliation to be too severe during the spring and summer growing season. Cook concluded that 60 percent utilization was too severe for winter (dormant season) use but that 50 percent utilization would maintain sustained yield and the best vigor.

Finally, from a 7-year study of grazing on salt desert vegetation, Cox (1977) reported that excessive or poorly timed grazing can irreversibly damage desert vegetation. Desert land overgrazed for even 1 year does not easily recover. Utilization of 70 percent will kill saltbush and winterfat. Even after 1 year of slightly less intensive use, 10 or more years of rest are required for shrubs to regain their original size.

KEY SPECIES COMPOSITION, RANGE CONDITION, AND PROJECTED KEY SPECIES COMPOSITION

Grassland Subtype

The 16 intensive grazing systems and 34 less intensive grazing systems would have the same impacts on the grassland subtype as would the proposed action. Key grass species composition in the grassland subtype would increase from 47 to 55 percent. Key shrub species would remain at 11 percent. The grassland subtype is ecologically more favorable to desert grasses than to shrubs.

This average increase in key species composition would change additional acres from fair to good condition. The area in good condition would increase from 212,455 to 229,456 acres; the area in fair condition would increase from 12,884 to 22,395 acres; and 2,278 acres would remain in poor condition.

The usable forage production would increase from 96 to 114 air dry pounds per acre.

Sagebrush Subtype

Alternative 6 would allow key grass species to increase from 21 to 25 percent and key shrub species to increase from 5 to 8 percent. On the 8,400 acres of sagebrush plowed, key grass species would increase to 47 percent, and key browse species would increase to 13 percent (Little Wolf AMP Trend Studies and Whiterock-Soapstone Trend Studies).

Varying amounts of target shrubs and trees would be killed. Plants seeded in the plowed area would thrive without competition from other perennials and would increase usable forage production several fold as allowed by site conditions.

The area in good condition in the sagebrush subtype would increase from 5,386 to 77,738 acres. With the land treatment, good condition acres would increase to 86,138. The area in fair condition would decrease from 109,819 to 41,181 acres. The area in poor condition would decrease from 48,709 to 44,995 acres and decline to 40,309 acres after land treatment.

Usable forage production would increase from 63 to 70 air dry pounds per acre under alternative 6.

A total of 8,400 acres of sagebrush would be plowed and seeded, increasing air dry pounds of forage per acre from 63 to 90 on the plowed acreage. Production would increase from 529,200 to 756,000 pounds of forage or from 1,661 to 2,945 AUMs.

Pinyon-Juniper Subtype

The pinyon-juniper subtype would not change, since this acreage consists of a pinyon-juniper climax (Humphrey, 1955) whose species composition, production, and range condition could not change unless land treatment or fire breaks the canopy dominance of the trees. Moreover, grazing systems have been found to negligibly affect the pinyon-juniper subtype (Gibbens and Fisser, 1975).

A total of 20,330 acres of pinyon-juniper would be double chained under alternative 6. Double chaining

would kill between 28 and 95 percent of the target trees, for an average kill of 60 percent. The percentage of kill depends on the age and height of trees, the older and taller trees being more susceptible to chaining (Vallentine, 1971).

Land treatment in the pinyon-juniper subtype would increase key species composition to an average of 60 percent (Little Wolf AMP trend studies). Of the 265,752 acres in poor condition, 20,330 acres would improve to good condition. Production would increase from 36 to 136 air dry pounds per acre, from 731,000 to 3 million pounds of forage or from 914 to 3,456 AUMs.

Desert Shrub Subtype

In the desert shrub subtype alternative 6 would increase key grass species from 9 to 11 percent and key shrub species from 12 to 16 percent. Good condition acres would increase from 27,086 to 83,428; fair condition acres would decrease from 168,883 to 120,761; and poor condition acres would decrease from 319,903 to 311,683.

In most cases this alternative would not change desert shrub subtypes in poor condition. Acres that would change would move from a high poor condition to a low fair condition. Key species on these acres would increase from 1 to 5 percent.

Alternative 6 would increase usable forage production in the desert shrub subtype from 39 to 46 air dry pounds per acre.

Creosotebush Subtype

In the creosotebush subtype key grass species composition would increase from 4 to 6 percent, and key shrub composition would increase from 14 to 17 percent. This increase, however, would not be large enough to change condition classes of this subtype's acreage. Annual production would increase from 29 to 30 air dry pounds per acre, but the acreage in each range condition would not change.

Blackbrush Subtype

The blackbrush subtype is monotypic and arid and has few other species in association, leaving little room for vegetation composition change. Without fire with or without livestock grazing, this subtype would change little over the long term.

This alternative would increase key grass species composition in the blackbrush subtype from 2 to 4 percent but maintain key shrub species composition at 13 percent. The condition of acreage would not change. Annual usable forage production would increase from 43 to 46 air dry pounds per acre.

The burning of blackbrush (2,840 acres) would increase key species composition to 60 percent, move range condition to good, and increase usable production to 99 pounds per acre.

Burning of blackbrush could kill up to 100 percent of the target species in the area, completely removing the blackbrush canopy (Bowns and West, 1976).

Mountain Shrub Subtype

Under alternative 6 key grass species composition in the mountain shrub subtype would remain at 2 percent. Key shrub species dominant in the subtype would increase in composition from 32 to 38 percent. Good condition acres would increase from 4,006 to 9,433; fair condition acres would decrease from 12,335 to 6,908; and poor condition acres would remain at 18,201.

Forage production under this alternative would remain at 92 air dry pounds per acre.

Conifer Subtype

The conifer subtype, like the pinyon-juniper subtype, would remain unchanged under this alternative. No land treatment would be applied.

Half-Shrub Subtype

In the half-shrub subtype alternative 6 would allow key grass species to increase from 9 to 10 percent and key shrub species to increase from 15 to 17 percent. Acreage in good condition would increase from 0 to 3,827; acreage in fair condition would decrease from 15,453 to 12,685; and acreage in poor condition would decrease from 30,102 to 29,043. Grazing systems on the half-shrub subtype, like on the desert shrub and creosotebush subtypes, are not as effective as on other subtypes because of aridity and because snakeweek dominates, preventing the increase of key species.

Usable forage production in the half-shrub subtype would increase from 38 to 40 air dry pounds per acre.

Annual Subtype

Key species in the annual subtype would increase by 17 percent. Key shrub species would increase from 6 to 13 percent, and key grass species would increase from 7 to 17 percent. Good condition acreage would increase from 3,339 to 24,234. Fair condition acreage would decrease from 20,902 to 16,862, and poor condition acreage would decrease from 17,441 to 586. Usable forage production per acre would increase from 29 to 67 air dry pounds.

THREATENED AND ENDANGERED PLANT SPECIES

The 25 threatened and endagered plants found in the Shivwits EIS area are mostly pioneers, occurring on badlands, frail lands, or roadside cuts, which are seldom grazed by livestock. Moreover, these plants are unpalatable. Grazing and trampling should thus not significantly impact these plants or their habitats.

RIPARIAN VEGETATION

Where riparian areas are not fenced, the condition of perennial grasses, forbs, and sedges would not improve, and woody riparian vegetation would not reproduce.

RANGE IMPROVEMENT PROJECTS

Construction (site preparation, construction, and vehicular traffic) of range improvements would temporarily disturb 15 acres of vegetation. Heavy grazing around new waters, however, would permanently disturb 18 to 630 acres of vegetation on previously ungrazed or lightly grazed range.

SOILS

Alternative 6 would generally benefit soils by reducing livestock use by 20 percent. Ground cover would increase, and raindrop impact and soil movement would decrease. These actions would decrease soil compaction, increasing infiltration rates and water retention (table 5). Soil movement and erosion are expected to decline.

EROSION

Alternative 6 would increase total ground cover, organic matter, fertility, and infiltration. It would reduce soil erosion on 1,606,532 acres and maintain static condition on 242,362 acres (table 6). Areas of critical or severe erosion would decline by 35,022 acres.

SEDIMENT YIELD

From figures derived from the BLM Denver Service Center's adaptation of the Pacific Southwest Inter-Agency Committee (1968) method of calculating sediment yields, annual sediment yield is projected to decline from 881.4 to 819.7 acre-feet, a reduction of 61.7 acre-feet or about 7.0 percent. The weighted average annual sediment yield would be reduced by about 0.02 acre-feet per square mile. See table 7 for a comparison of projected sediment yield by alternatives and allotments.

LAND TREATMENT

Under alternative 6 chaining of pinyon-juniper would be reduced to 20,330 acres on Sullivans Canyon, Black Rock, Parashaunt, Mainstreet, and Poverty Mountain allotments. The potential sediment yield for the EIS area would increase from the present rate of 881.4 acre-feet per year to 888.7 acre-feet per year or 7.3 acre-feet per year until seeding establishment in 2 or 3 years.

Sagebrush would be plowed on 8,400 acres, increasing sediment yield by 2.8 acre-feet per year until seeding establishment.

Only 2,840 acres of blackbrush would be burned and seeded to grass, increasing sediment yield by 1.2 acre-feet per year for 2 or 3 years.

CONSTRUCTION

The 7.7 miles of fence constructed under alternative 6 would insignificantly affect sediment yield.

WATER FACILITIES

Only 18 water facilities are proposed under alternative 6. These facilities would cause insignificant soil loss from erosion.

WATER RESOURCES

WATER QUANTITY

Alternative 6 would increase vegetation, ground cover, and infiltration and thus slightly decrease surface flow.

WATER QUALITY

Under alternative 6, an annual reduction in sediment yield of 66.7 acre-feet would decrease sediment in the water and thus increase water quality.

ANIMALS

ASSUMPTIONS

- Approximately 139,000 acres of habitat on non-AMP allotments above 6,000 feet (mule deer summer range) will be under late spring and summer seasonal grazing, being deferred until June 1 each year.
- Allotments with extensive land treatments (approximately 31,570 acres) will require intensive grazing management. All new land treatment will occur on allotments under intensive management.
- The habitat condition of vegetation subtypes within the EIS area will improve, except for the creosotebush, blackbrush, and pinyon-juniper subtypes.
- Grazing within tortoise concentration areas will be deferred during spring.
- Approximately 180,000 acres of present and potential bighorn habitat will continue to be adversely impacted under continuous yearlong grazing.

INTRODUCTION

To assess the impacts of alternative 6 on wildlife habitat,one must understand how alternative 6 differs

TABLE 5
ANALYSIS OF IMPACTS ON SOILS

Alternative 6 Less Intensive Livestock Management			Changes In				
Grazing System	Area Affected	Acres	Ground Cover and Litter	Organic Matter and Fertility	Compaction	Infiltration	Sediment Yield Ac Ft/Mi^2
Intensive Management							
Four Pasture Rest-Rotation System	All	56,775	Increase	Increase	Decrease	Increase	Slight to moderate decrease 0.01 to 0.05
Three Pasture Rest-Rotation System	All except allotment listed below:	126,775	Increase	Increase	Decrease	Increase	Slight to moderate decrease 0.01 to 0.05
	Parashaunt	202,698	Remain static	Remain static	Remain static	Remain static	Remain static
Deferred Rotation System	All	401,437	Increase	Increase	Decrease	Increase	Slight to moderate decrease 0.01 to 0.05
Less Intensive Management	All except allotments listed below:	992,193	Increase	Increase	Decrease	Increase	Slight to moderate decrease 0.01 to 0.05
	Penns Well Rosenberry Shelly	29,352	Increase	Increase	Decrease	Increase	High decrease 0.06 to 0.10
	Hidden and Sullivan Jump Canyon Quail Canyon	39,664	Remain static	Remain static	Remain static	Remain static	Remain static

TABLE 6
EROSION CONDITION CLASSES (Federal Acres)

	Stable	Slight	Moderate	Critical	Severe
Present Situation	6,804	628,527	705,779	54,771	1,060
Proposed Action, Alt. 2	31,341	874,090	473,724	16,726	1,060
Alternatives 1, 3	17,282	757,234	598,593	22,772	1,060
Alternative 4	0	493,407	799,695	102,779	1,060
Alternative 5	34,475	917,328	428,025	16,159	954
Alternative 6	24,312	815,662	536,158	19,749	1,060

Source: BLM Watershed Conservation and Development System. Computer printout FREM065 (3/17/77).
Note: This table supercedes table 3-5 (p. 115) of the draft EIS.

TABLE 7
SEDIMENT YIELD* BY ALLOTMENT

Allotment Name	No.	Present	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Beaver Dam Slope	3	14.7	13.5	13.5	13.2	14.3	13.5	12.9	13.5
Black Rock	15	19.9	18.7	18.9	17.9	19.4	18.7	17.5	18.7
Blake Pond	6	11.3	10.7	10.7	10.2	11.0	12.9	9.9	10.7
Clay Spring	12	6.8	6.2	6.2	6.2	6.6	6.2	6.0	6.2
Cottonwood	21	15.5	15.0	14.7	14.0	15.1	17.7	13.6	14.8
Diamond Butte	31	4.5	3.8	4.3	3.6	4.4	5.1	3.4	4.1
Duncan Tank	37	4.5	4.2	4.3	4.0	4.4	4.2	4.0	4.2
Grassie Mountain	48	47.8	44.3	45.4	43.0	46.6	54.5	42.1	44.8
Hidden and Sullivan	25	16.4	16.4	16.4	14.8	16.0	18.7	14.4	16.4
Ivanpah	40	6.6	5.9	6.3	5.9	6.4	5.9	5.8	5.9
Iverson	34	1.7	1.5	1.6	1.5	1.7	1.9	1.5	1.5
Jackson Tank	10	4.9	4.3	4.3	4.2	4.8	4.3	4.3	4.3
Jump Canyon	26	12.8	12.8	12.8	11.6	13.0	14.6	11.3	12.8
Last Chance	42	16.5	15.9	15.9	14.8	16.1	18.8	14.5	16.0
Littlefield Community	18	52.7	47.9	47.9	47.4	51.4	60.1	46.4	48.0
Littlefield Free Use	19	1.4	1.4	1.4	1.3	1.4	1.6	1.2	1.4
Little Tank	30	3.3	2.8	3.1	2.6	3.2	2.8	2.6	2.8
Little Wolf	23	4.1	4.0	4.1	3.7	4.0	4.0	3.6	4.0
Lizard	7	7.0	6.4	6.4	6.3	6.8	8.0	6.2	6.4
Lower Hurricane	9	31.8	27.8	30.2	27.6	31.0	27.8	27.0	27.8
Mainstreet	28	57.3	50.5	50.5	50.0	55.9	50.5	50.4	50.5
Mesquite Community	20	24.2	23.3	23.3	21.8	23.6	27.5	21.3	23.4
Mormon Well	2	6.7	6.2	6.2	6.0	6.5	7.6	5.9	6.2
Mosby-Nay	45	11.2	9.6	9.6	9.5	10.9	12.8	9.4	9.6
Mt. Trumbull	35	14.9	13.9	14.2	13.4	14.5	13.9	13.1	13.9
Mud and Cane Spring	22	34.1	32.7	32.8	30.7	33.3	38.9	30.0	32.9
Mule Canyon	39	10.1	8.9	8.9	8.7	9.8	11.5	8.9	9.0
Mustang Spring	16	9.0	8.7	8.8	8.1	8.8	10.2	7.9	8.8
Pakoon	43	21.4	20.7	20.8	18.3	20.9	24.4	18.8	20.9
Pakoon Spring	44	17.9	14.7	14.7	16.1	17.5	20.4	14.0	14.9
Parashaunt	50	63.3	63.3	63.3	57.0	64.0	63.3	55.7	63.3
Pa's Pocket	38	7.7	6.3	7.3	6.1	7.5	8.8	6.2	6.5
Pat's Pond	33	0.9	0.8	0.9	0.8	0.9	1.0	0.8	0.8
Penns Well	49	16.3	13.4	13.4	13.0	15.9	17.1	13.0	13.8
Poverty	41	36.2	33.8	33.8	32.6	35.3	33.8	31.9	33.8
Purgatory Canyon	5	6.4	6.2	6.4	5.8	6.2	7.3	5.6	6.3
Quail Canyon	13	4.8	4.8	4.9	4.3	4.8	5.5	4.2	4.8
Rosenberry	32	4.2	3.6	4.0	3.6	4.1	4.8	3.5	3.6
Shelly	29	1.5	1.3	1.4	1.3	1.5	1.7	1.3	1.3
Snyder	36	1.9	1.7	1.8	1.7	1.9	2.2	1.7	1.7
Sullivan Canyon	17	16.4	14.4	15.6	14.2	16.0	14.4	14.4	14.5
Sullivan Tank	27	5.5	5.1	5.1	5.0	5.4	6.3	4.8	5.2
Sunshine	8	10.4	9.9	9.9	9.4	10.1	11.9	9.2	10.0
Tassi	46	59.8	54.0	54.0	53.8	58.3	68.2	52.6	55.0
Toquer Tank	11	7.4	6.8	6.8	6.7	7.2	6.8	6.5	6.8
Whiterock-Soapstone	24	8.2	7.9	7.9	7.4	8.0	7.9	7.2	8.0
Wildcat	47	57.6	50.4	54.6	49.8	56.2	65.7	49.5	51.0
Wolfhole Canyon	1	38.2	35.9	35.9	34.4	37.3	43.5	33.6	36.0
Wolfhole Lake	14	9.1	8.9	9.0	8.2	8.9	10.4	8.0	8.9
Wolfhole Mountain	4	34.6	33.8	33.8	31.1	34.0	39.4	30.5	34.0
Unallotted									
Total for ES area		881.4	815.0	828.0	802.2	862.8	939.0	768.1	819.7

* In acre feet per year
Based on figures derived from Denver Service Center adaptation of Pacific Southwest Interagency Committee (1968) method of calculating sediment yields.

Note: This table supercedes table 3-6 (page 116) in the draft EIS.

from the current situation (no action). Existing AMP allotments would continue to be intensively managed under rest rotation or deferred rotation systems at 50 percent average utilization. Allotments without AMPs would be grazed yearlong or seasonally at 45 percent utilization. Livestock operators would decide which pastures to use for both yearlong and seasonal grazing. Any type of pasture rotation on non-AMP allotments would be at the discretion of the operator. Therefore, this analysis assumes that livestock will be distributed over an entire allotment in pastures having water.

Livestock-wildlife conflict on non-AMP allotments is difficult to project because impacts vary by habitat condition, vegetation, type of grazing (yearlong or seasonal), and distribution of water within allotments, which determines livestock distribution.

The 16 allotments under implemented AMPs, involving 655,548 acres of habitat or 38 percent of the Shivwits EIS area, would be managed essentially the same as they would under the proposed action and alternatives, 2, 3, and 4.

SEASONAL AND YEARLONG GRAZING

Alternative 6 would improve overall wildlife habitat on 146,868 acres (seasonal grazing) and 1,036,416 acres (yearlong grazing). Its 45 percent utilization would be lower than existing utilization, which is greater than 50 percent. Approximately 103,088 acres or 64 percent of wildlife habitat would be rested under alternative 6 (AMP allotments). Moreover, 146,868 acres of habitat would be rested for certain periods, depending on the allotment. During the spring growing season, alternative 6 would rest 170,530 acres of habitat.

Likewise, during the summer growing season alternative 6 would rest 193,785 acres of habitat. When wildlife habitat is rested, little livestock-wildlife competition occurs.

The degree and extent of conflict between wildlife and livestock are difficult to predict, especially where subtle changes in vegetation species composition and structure are projected. Alternative 6 is expected to upgrade wildlife habitat by improving browse, and cool and warm-season grasses and forbs. Key wildlife species composition is expected to increase.

Seasonal grazing (146,868 acres) should improve wildlife food and cover faster than continuous yearlong grazing (1,036,416 acres).

Alternative 6 would not substantially improve range succulence on non-AMP allotments under continuous yearlong grazing, especially if water distribution is inadequate. Under less intensive grazing, fawning and rearing areas for big game and nesting habitat for nongame birds would be grazed each year.

Continuous yearlong grazing allotments do not have the potential to provide adequate summer forbs to meet wildlife needs as do allotments under AMPs. In addition, game and nongame wildlife would not benefit from the increase in forbs of ungrazed habitats (AMP allotments) during the critical summer-fall drought. Accordingly, spring forbs, cool-season grasses, browse, summer forbs, and warm-season grasses and browse are not expected to increase in vigor and density to the extent they would under AMPs.

Approximately 139,000 acres or 71 percent of crucial mule deer summer range (6,000 feet and above) would experience continuous seasonal grazing under alternatives 4 and 6. The no-action alternative, allowing utilization greater than 50 percent, would continue to deteriorate mule deer summer range. Alternative 6 would limit utilization to 45 percent, but lower utilization is no substitute for rested habitat. Livestock would not be permitted above 6,000 feet until June 1, but mule deer fawns are not dropped until the middle of June.

Fawn production could be adversely impacted if range succulence (forb production) is not adequate both before and after fawning. Under intensive grazing on AMP allotments, mule deer could use rested pastures. Deer nutritional needs become extremely critical during the later summer-early fall drought because fawns must eat enough to allow them to survive the winter. The overall condition of mule deer summer range would little improve.

Continuous yearlong grazing under alternative 6 would adversely impact desert bighorn sheep food and cover much as it adversely impacts them now. The 5 percent reduction in utilization would not meet bighorn habitat requirements, and less intensive management would provide no rested pastures for bighorn use. Habitat condition within 1 mile of escape cover is extrememly critical to bighorn sheep. Under alternative 6, however, livestock would continuously (yearlong) graze 180,000 acres of present and potential bighorn sheep habitat.

WATER DEVELOPMENTS AND FENCES

Alternatives 4 and 6 would slightly increase the opportunity for big game and other water-dependent species to expand into dry habitats through water development. On the other hand, an estimated 2,250 acres of habitat would remain deteriorated due to the construction of 18 additional waters.

Under no action and less intensive management, livestock would be less well distributed, and denuded areas around waters would have the potential to increase. Poor livestock water distribution, however, historically has kept areas lightly grazed and maintained areas of slight livestock-wildlife competition.

A total 7.7 miles of fence would be constructed under alternatives 4 and 6, increasing the possibility of mule deer, bighorn sheep, and pronghorn antelope dying while trying to cross fences. Fences will be designed to decrease movement and negotiation problems, but all fences potentially threaten big game, especially fences around water.

EPHEMERAL GRAZING

When ephemeral grazing is permitted, wildlife habitat should improve over current conditions. Utilization now exceeds 50 percent on most ephemeral range. Restricting utilization to 45 percent could increase forb, grass, and browse production if operators adhere closely to this level.

Only 18 percent of the total ephemeral habitat (541,892 acres) would be managed through less intensive grazing. Under alternative 6, 85 percent of desert tortoise habitat (190,147 acres) would be less intensively managed, and 128,777 acres or 68 percent would be continuously grazed yearlong. How alternative 6 would affect desert tortoises and other sensitive desert wildlife is unknown. The condition of the creosotebush and blackbrush subtypes is not expected to improve.

VEGETATION MANIPULATION

Alternatives 4 and 6 would chain, plow/disc, or burn an estimated 31,750 acres of the pinyon-juniper, sagebrush, and blackbrush subtypes. Allotments not under intensive management would not undergo vegetation manipulation, nor would areas under seasonal or continuous yearlong grazing.

WET MEADOW AND RIPARIAN HABITATS

District policy calls for fencing all springs with significant wet meadow habitat. Under alternative 6 the remaining unfenced spring habitats would continue to deteriorate as at present. Canopy-forming species (cottonwood, willow) are not expected to reproduce, and the species composition of mesic species is not expected to improve.

INCREASED WILDFIRES

Alternative 6 would probably subject non-AMP allotments and allotments under implemented AMPs to the same frequency of fire as would the proposed action.

CULTURAL RESOURCES

Alternative 6 would not change livestock distribution, and thus portions of the allotments would not be grazed as heavily as others and would be more susceptible to wildfires. The increase in wildfire potential would have the most detrimental impact on cultural resource sites. Although wildfires would probably be smaller and of shorter duration than controlled burns, the effects would be the same. Potential impacts on cultural resources are shown in table 8.

The Shivwits and Moapa Paiute Bands have no known shrines, burial grounds, or sacred lands, plants, or animals within the EIS area (Snow, 1980; Preston, 1980). If any sacred entities are discovered, BLM will act to protect them.

VISUAL RESOURCES

The impact of less intensive management and range developments on visual resources would depend on the visual resource management (VRM) class of the area for which the project or grazing use is proposed. Design restrictions should allow any project proposed in a VRM Class IV area to meet long-term VRM objectives.

Without specific project locations, neither the type of impact nor the VRM class acreage impacted can be determined. Thus, the impacts of proposed projects have been collectively analyzed for each VRM Class — I, II, and III. The results of this analysis are summarized in table 9.

The development of new waters — catchments, reservoirs, and troughs — would have significant long-term impacts on visual resources. The short-term impacts of troughs would be slight, but catchment and reservoir construction would highly disturb the form, color, and texture of the landscape. Reestablishing vegetation, however, would allow these features to meet long-term VRM Class II objectives.

Additionally, cattle grazing and trampling would visually impact an area of approximately 35 acres around each new water, representing a moderately adverse long-term impact in Class III areas and a highly adverse long-term impact in Class I and II areas.

The development of springs would alter the form, color, and texture of the spring area, having a highly adverse short-term impact. Again, reestablishing vegetation would reduce this disturbance to a slightly adverse long-term impact that would meet VRM Class II objectives.

Chaining, burning, and discing/plowing would have highly adverse short-term impacts, altering the form, color, and texture of the landscape and increasing the contrast between treated and untreated areas. The visual contrast would decrease as seedings reestablish vegetation. Chainings would therefore have a moderately adverse long-term impact. Burning and discing/plowing, if accompanied by seeding, would yield low to moderate beneficial impacts. Land so treated would meet objectives for VRM Class II.

Alternative 6 would fully implement existing AMPs as outlined in the proposed action. Future range improvements would be limited to those determined to benefit the range and those needed to fully implement existing AMPs. These developments overall would adversely affect visual resources.

Fully implementing the existing AMPs would create an initial moderate contrast of color and texture between grazed and rested pastures. As range conditions

TABLE 8
POTENTIAL IMPACTS ON CULTURAL RESOURCES

Proposal, Alternative, or Development	Agent of Impact	Primary Effect	Secondary Effect	Degree of Impact
Proposed Action	Cattle trampling/Rubbing	Loss of site integrity (patterning and stratiography)	Artifactual breakage and structural damage	Low -
	Decreased erosion	Less artifactual displacement/ exposure	Less loss in analytical data and vandalism	Low +
Full Stocking with Management	Cattle trampling/Rubbing	Same as Proposed Action	Same as Proposed Action	Moderate -
	Increased erosion	More displacement/exposure of artifacts	More loss of analytical data and increased vandalism	Moderate -
Stocking by Condition Class	Cattle trampling/Rubbing Decreased erosion	Same as Proposed Action	Same as Proposed Action	Low -
No Vegetation Manipulation	Cattle trampling/Rubbing	Same as Proposed Action	Same as Proposed Action	Low -
	Continued erosion	Same as Full Stocking	Same as Full Stocking	Low -
No Action	Cattle trampling/Rubbing	Same as Proposed Action	Same as Proposed Action	Moderate -
	Increased erosion	Same as Full Stocking	Same as Full Stocking	Moderate -
Water Developments and Fences	Surface and subsurface disturbance by equipment	Loss of site integrity	Loss of analytical data	High -
	Cattle concentration	Compaction/Erosion	" " " "	High -
	Cattle trails	Erosion/Trampling	" " " "	Low -
	Vandalism	Loss of analytical data		High -
Chaining	Surface and subsurface disturbance by equipment	Loss of site integrity	" " " "	Moderate to High -
	Vandalism	Loss of analytical data		Moderate -
Burning	Heat fracturing of lithics, heat discoloration and distortion of ceramics, combustion of flammable artifacts, contamination of site for C^{14} dating and pollen analysis	Loss of site integrity	Loss of analytical data	High -
	Exposure of site/artifacts through loss of vegetation	Temperature increased erosion	Vandalism	High -
	Fire suppression, i.e. fire line construction	Loss or disturbance of site integrity	Loss of analytical data	Low to High -
Disc or Plow	Surface and subsurface	Loss of site integrity	" " " "	High -
	Exposure of artifacts	Vandalism	" " " "	
Seeding	Compounds all above land treatments since it follows the specific treatment			Low -
Two-Track Road	Disturbance of surface	Loss of site integrity (patterning and breakage)	Loss of analytical data	Low -
	Access	Vandalism	" " " "	High -
Wildfire	Wildfires (same as burning)	Loss of site integrity	" " " "	Medium (Wildfires probably would be of less intensity and shorter duration than controlled burns.)

TABLE 9
LONG-TERM IMPACTS OF RANGE DEVELOPMENTS
ON VISUAL RESOURCES

Development	Class I	Class II	Class III
Water Developments			
Springs	M-	L-	L-
Troughs	M-	M-	M-
Pipelines	M-	L-	L-
Reservoirs	H-	H-	M-
Catchments	H-	H-	M-
Fences	M-	M-	L-
Land Treatment			
Chaining	H-	M-	M-
Discing/Plowing	M+	M+	L+
Burning	M+	M+	L+

L = Low; M = Moderate; H = High + = Beneficial Impact; - = Adverse Impact

improve, visual quality of the scenery would generally improve, upgrading slightly to moderately the scenic quality in all VRM classes.

On allotments without AMPs, grazing would generally be reduced to 45 percent utilization. Moreover, these allotments would probably require fewer developments than at present, since studies showing needs for developments would be based on fewer animals and less intensive management than at present. Fewer water developments would cause additional adverse visual impacts around existing waters, but the visual resources of the rest of the allotment would moderately benefit from increased vegetation growth and improved range condition.

LAND USE

LIVESTOCK GRAZING

Under less intensive grazing management, Federal lands in the EIS area would continue to be grazed but at a lower intensity than at present. No significant change in land use patterns of livestock grazing would occur under this alternative.

Adjustments in Livestock AUMs

Table 10, Anticipated Stocking Rates, shows the initial stocking rates and the long-term changes expected for each allotment under alternative 6. Table 11 summarizes the initial adjustments in stocking rates by size of livestock operation.

Alternative 6 would reduce allowable livestock forage from the present 5-year average licensed use, adversely impacting livestock operators. After 15 years allotments under existing AMPs would increase in total AUMs of forage produced, but allotments under less intensive management would not fully regain the adjusted AUMs of forage.

In the short term, lower stocking rates would reduce total livestock production and income to ranchers. Over the long term, however, moderate stocking rates would increase the ability of the range to produce forage and sustain grazing.

Livestock Operations

Under less intensive management, livestock operations, grazing patterns, and handling procedures would not change from the present. No allotments would be combined, and those now run in common would continue to be so. Season of use would not change except in Purgatory Canyon allotment, where livestock would graze 4 months during winter and early spring rather than the present 3 months during spring. BLM would monitor and evaluate all allotments to determine if a change in management is needed to meet resource management objectives.

Livestock Production Characteristics

Allotments under implemented AMPs would use rest-rotation and deferred rotation grazing systems. Data from these allotments show an average 15 percent increase in calf crops and an average 5 percent increase in calf weaning weights over production before AMP implementation. Under AMPs, death losses have declined 25-50 percent.

Initial stocking rates on the allotments under less intensive management would be cut by an average of 26 percent from the 5-year average licensed use. Generally, this reduction would allow more forage for each grazing animal than at present. The lower stocking rates, over time, would improve range conditions and increase the more desirable forage species for livestock, increasing weight gains and calf crops and reducing death losses (table 12).

The Arizona Inter-Agency Range Committee 1972 (1973) reported that in Yavapai County, Arizona more efficient livestock production and favorable economic returns accrued under moderate (40-50 percent) grazing rather than under close (70-80 percent) grazing. Moderate grazing increased calf weaning weights by 35 pounds, increased percentage calf crop from 75 to 83 percent, and increased the average cull cow weights by 150 pounds. Moderate grazing also produced highest net profits in Colorado (Bement, 1969) and Texas (Merrill, 1969) studies.

Livestock and forage conditions would improve over the long term, allowing more livestock on the range. After 15 years this alternative would produce 80,065 AUMs of forage (table 10) in the EIS area.

RECREATION

BLM recreation specialists evaluated existing and proposed designated areas to assess the long-term impacts of alternative 6. The only affected area would be Paiute Primitive Area (Littlefield and Sullivans Canyon allotments) where two springs would be fenced to prevent livestock trampling, to allow revegetation, and to increase water available to wildlife. These projects would have a moderately beneficial impact on the primitive area.

Alternative 6 would generally improve sightseeing by decreasing livestock numbers and increasing vegetation density and species composition. Similarly, improvements such as pipelines might impart significant short-term impacts but have less serious long-term impacts because of natural processes or mitigation. Thus, all less-than-moderate impacts are excluded.

Both the grazing management systems and proposed range developments were evaluated to determine whether they would preserve areas in a natural condition or restore the values for which the areas are to be established or were established.

TABLE 10

ANTICIPATED STOCKING RATES UNDER LESS INTENSIVE MANAGEMENT OF LIVESTOCK GRAZING

Allotment	5-Year Average	Initial 1/	Adjusted AUMS 2/	15-Year 3/	Changes 4/
Intensive Management*					
Beaver Dam Slope	802	772	-30	772	-30
Black Rock	1,192	993	-199	1,510	+318
Clay Spring	1,142	1,106	-36	1,222	+80
Duncan Tank	442	418	-24	517	+75
Ivanpah	827	523	-304	684	-143
Jackson Tank	737	673	-64	961	+224
Little Tank	662	575	-87	669	+7
Little Wolf	305	282	-23	282	-23
Lower Hurricane	4,815	4,815	0	5,330	+515
Mainstreet	8,333	6,690	-1,643	9,115	+782
Mt. Trumbull	1,114	1,114	0	1,114	0
Parashaunt	3,292	3,292	0	4,194	+902
Poverty Mountain	5,337	4,783	-554	6,488	+1,151
Sullivan Canyon	1,232	938	-294	1,357	+125
Toquer Tank	1,073	1,073	0	1,317	+244
Whiterock-Soapstone	1,259	1,259	0	1,259	0
TOTAL	32,564	29,306	-3,258	36,791	+4,227
Less Intensive Management					
Blake Pond	1,488	1,138	-350	1,358	-130
Cottonwood	1,791	1,648	-143	2,231	+440
Diamond Butte	346	314	-32	396	+50
Grassie Mountain	5,704	4,134	-1,570	4,496	-1,208
Hidden and Sullivan	1,782	1,719	-63	1,719	-63
Iverson	36	42	+6	92	+56
Jump Canyon	2,177	1,153	-1,024	1,184	-993
Last Chance	880	189	-691	189	-691
Link Spring	1,290	923	-367	923	-367
Littlefield Community	3,501	1,639	-1,862	1,639	-1,862
Littlefield Free Use	129	108	-21	130	-1
Lizard	168	189	+21	346	+178
Mesquite Community	2,568	1,938	-630	1,938	-630
Mormon Well	326	473	+147	473	+147
Mosby-Nay	1,155	583	-572	661	-494
Mud and Cane Spring	4,883	3,401	-1,482	4,411	-472
Mule Canyon	1,023	543	-480	694	-329
Mustang Spring	553	460	-93	534	-19
Pakoon	987	989	+2	989	+2
Pakoon Spring	1,126	970	-156	1,150	+24
Pa's Pocket	1,034	684	-350	777	-257
Pat's Pond	61	64	+3	86	+25
Penn's Well	719	530	-189	571	-148
Purgatory	435	248	-187	248	-187
Quail Canyon	307	388	+81	483	+176
Rosenberry	172	171	-1	258	+86
Shelly	86	52	-34	83	-3
Snyder	80	66	-14	133	+53
Sullivan Tank	452	296	-156	296	-156
Sunshine	996	1,224	+228	1,792	+796
Tassi	1,087	2,063	+976	2,063	+976
Wildcat	8,052	4,550	-3,502	4,604	-3,448
Wolfhole Canyon	2,980	2,566	-414	2,943	-37
Wolfhole Lake	723	1,018	+295	1,211	+488
Wolfhole Mountain	2,279	1,682	-597	2,173	-106
TOTAL	51,376	38,155	-13,221	43,274	-8,104
GRAND TOTAL	83,940	67,461	-16,479	80,065	-3,877

*Existing AMPs.

LEGEND

1/ Initial stocking rate.

2/ Adjusted AUMs represent the difference between average 5-year license and initial livestock stocking rate.

3/ Expected stocking rate after 15 years.

4/ Difference between stocking rate after 15 years and present 5-year average licensed use.

TABLE 11
SUMMARY OF INITIAL ADJUSTMENTS IN LIVESTOCK AUMS FROM 5-YEAR AVERAGE

Size of Operation*	Alternative 6		
Group I	Allotments	Acres	AUMs
Intensive Management			
Increases	0	0	0
Reductions	3	47,809	77
Less Intensive Management			
Increases	6	43,597	634
Reductions	5	92,203	2,195
Group II			
Intensive Management			
Increases	0	0	0
Reductions	2	19,820	100
Less Intensive Management			
Increases	3	158,424	2,031
Reductions	9	262,444	4,848
Group III			
Intensive Management			
Increases	0	0	0
Reductions	4	74,496	884
Less Intensive Management			
Increases	0	0	0
Reductions	4	138,689	1,186
Group IV			
Intensive Management			
Increases	0	0	0
Reductions	2	155,199	2,197
Less Intensive Management			
Increases	1	47,038	2
Reductions	8	431,469	8,041

*Herd size
Group I - Less than 75 head
Group II - 75 to 150 head
Group III - 151 to 300 head
Group IV - More than 300 head

TABLE 12
SUMMARY OF ANTICIPATED LIVESTOCK PERFORMANCE IMPACTS*

Livestock Production Characteristics	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 6
Percent Calf Crops	Increase 15%	Increase 5%	Increase 15%	Increase 10%	Decrease 10%	Increase 13%
Weaned Calf Weights	Increase 10%-35 lbs	Increase 5%-17 lbs	Increase 10%-35 lbs	Increase 8%-28 lbs	Decrease 15%-52 lbs	Increase 9%-31 lbs.
Animal Death Loss	Decrease 25%	No Change	Decrease 25%	Decrease 20%	Increase 50%	Decrease 22%
Cull Cow Weights	Increase 8%-72 lbs	Increase 3%-30 lbs	Increase 10%-90 lbs	Increase 5%-45 lbs	Decrease 10%-90 lbs	Increase 6%-59 lbs.

*Data based on interviews with several livestock operators in the EIS area and follow-up reports sent to all operators in the EIS area for verification and correction.
Note: Under alternative 5 (no-action) livestock production characteristics would not change.

TABLE 13
LONG-TERM IMPACTS ON RECREATION

Activity	Quality	Opportunity	Visitor Use	Comment
Hunting				
Big Game	L+	L+	L+	Improved forage and new waters would aid antelope and deer populations.
Small Game	L+	L+	L+	
Sightseeing				Alternative 6 would have impacts similar to those of the proposed action (see table 3-16 of draft EIS, page 160), but not as great, since fewer developments would be involved.
Archaeology	L-	L+	L+	
Primitive Experiences	L-	L-	L-	Primitive values would continue to decline gradually as a result of livestock management, particularly around water developments.
Off-Road Vehicle Use	L-	L+	L+	8 miles of new road would slightly increase ORV opportunities. Present low visitor use may slightly increase.

The varying degrees of impact were defined as follows:

Moderate Impact — The action would beneficially or adversely change the quality of the natural values for which the area was or is to be established.

High Impact — The action would have an adverse impact sufficient to eliminate those natural values for which the area was or is to be established or a beneficial impact sufficient to restore or preserve the natural values for which the area was or is to be established.

Range developments were also evaluated to determine whether their function would affect the quality of natural values. This evaluation revealed that land treatments and those developments supplying water to livestock would most seriously affect natural values.

Livestock severely deplete forage within a 250-foot radius of waters and less severely deplete forage within an additional 450-foot radius. Livestock grazing would change plant composition and density; increase erosion potential; and jeopardize the scenic, scientific, and educational value of approximately 35 acres around each water.

Recreation Uses and Amounts

Each recreational activity identified in BLM's Recreation Inventory System was evaluated to determine how alternative 6 would affect its quality rating, recreation opportunity, or visitor use. In the long term alternative 6 would benefit recreation. Table 13 summarizes the significant long-term impacts of alternative 6 on the EIS area's more important recreation activities.

The 7.7 miles of new fences would have a low adverse impact on off-road vehicle (ORV) travel throughout the 1.5 million acres of public land in the EIS area. The 8 miles of new roads would offset this restriction by providing access to areas lacking roads. Alternative 6 would have little or no overall effect on existing ORV designations.

WILDERNESS

BLM's wilderness interim management policy is to continue multiple-use management and to preserve the wilderness potential of areas designated for wilderness study (map 2-9, page 86, draft EIS). This policy applies from October 21, 1976 until (1) Congress declares an area unsuitable for wilderness or (2) the inventory process determines that an area lacks wilderness characteristics. In either case, other types of multiple-use management can proceed. Thus, to avoid jeopardizing existing wilderness qualities, some developments proposed under alternative 6 might be delayed pending the required wilderness inventory and review and congressional action.

Although grazing is permitted within wilderness areas, certain developments supporting grazing might be prohibited: reservoirs, pipelines, roads, and fences. The impact of fences, for instance, in a potential wilderness area might be easily mitigated should the area be designated wilderness. In that case, fences would have a low long-term adverse impact on wilderness values.

Roads, on the other hand, more permanently disturb soil, drainage, and vegetation, having impacts not so easily mitigated. Although a road might be removed from use, scarified, and reseeded, its existence might be apparent for many decades. Road construction, then, might have a highly adverse impact on wilderness values and would not be permitted in a wilderness study area.

Since interim management does not permit developments that would disturb wilderness values, alternative 6 would allow no projects having significant impacts until an area is removed from interim management.

ECONOMIC AND SOCIAL CONDITIONS

EMPLOYMENT AND INCOME

Under alternative 6, ranch employment and income in the North Rim Social-Economic Profile Area (SEPA) (see draft EIS, page 83) would temporarily and insignificantly decline from the initial decrease in forage available to livestock. These short-term initial income losses would amount to no more than $154,900 a year and would represent less than 1 percent of the SEPA's income. The information on short- and long-term impacts and significance to the SEPA is summarized in table 14. (Compare table 14 to table 3-17, page 165, of the draft EIS). After implementation, improvements in livestock performance would increase the average annual livestock income by $86,000. Livestock income change (including the multiplier effect) was averaged over a 50-year period — the assumed life of the proposed action — and then discounted.

GOVERNMENT REVENUES

See table 3-17 (page 165) of the draft EIS for the estimated long-term changes in BLM revenue for the proposed action and other alternatives. Under alternative 6, BLM annual revenue in the short term would decline by $31,100. In the long term, annual BLM revenue would decline by $3,800 (1979 dollars).

RANCH ECONOMICS

Under alternative 6 the initial adjustment to livestock stocking rates would financially burden many operators. The extent of this burden would depend on the existing economic condition of the operation, rancher options (such as grazing other land in Utah to compensate for lost AUMs), and the general economic situation, since many ranchers subsidize their operations. The lack of financial data on individual operations and on

TABLE 14
AREAWIDE ECONOMIC AND SOCIAL IMPACTS

Economic Impacts	Alternative 6 Less Intensive Management of Livestock Grazing
Short-term areawide change in livestock income	- $154,900
Areawide income changes as a percent of SEPA income	.002 percent
Long-term areawide average annual change in livestock income (15 years after implementation)	+ $ 86,000
Areawide income change as a percent of SEPA income	.001 percent
Short-term change in BLM revenue	- $ 31,100
Long-term change in BLM revenue	- $ 3,800

the availability of additional lands to compensate for reduced AUMs allows only an analysis of impacts by representative ranch size. See table 9, Anticipated Stocking Rates under Less Intensive Management, for information on livestock adjustments and future changes in AUMs.

Table 15 presents an economic assessment of livestock operations by representative ranch size for alternative 6. See table 3-18, page 167, in the draft EIS for the economic assessment for the proposed action and other alternatives.

The estimated change in ranch income is based on the assumption that the representative ranch operation would adjust its herd size in response to a change in available AUMs. (Table 2-25 in the draft EIS, page 91, shows the income statement for four representative ranch sizes.) The adjustment in variable costs and returns is based on the change in herd size expected without a change in fixed costs. This analysis assumes that representative operations would rebuild their herds as BLM allows the use of the increased forage. Variable costs were thus adjusted on the basis of that change. Moreover, since livestock performance (calf weights, cull cow weights, death loss, and percent calf crops) are expected to improve under alternative 6, receipts were adjusted to reflect these changes.

In the short term all four representative ranch sizes would earn less net ranch cash income than at present. The 224-head representative ranch size would be hurt the most with a negative cash flow of $1,400 forcing operators to obtain additional funds to cover their expenses.

In the long term the range would produce more forage than the stocking levels would permit under 45 percent utilization. Except for the 224-head size, however, BLM would allow the grazing of less forage than under the present 5-year average licensed use (see table 15). Even though BLM would allow slightly less livestock use than the 5-year average, livestock performance would improve under alternative 6, increasing net ranch cash income for each ranch size 15 years after the alternative is implemented.

SOCIAL ATTITUDES AND VALUES

If a change in management is indicated under alternative 6, BLM would cooperate with the livestock permittee to implement intensive grazing. The negative attitude some affected operators might have towards AMPs required under alternatives 1, 2, and 3 would not exist because management would change only in cooperation with the livestock permittee and BLM.

On the other hand, proposed changes in initial stocking rates would worsen some affected operators' negative attitudes toward BLM. These changes in stocking rates might reduce some operators' ranch income and ability to borrow money. In the long term, however, the economic situation of livestock operators would improve with the increase in usable forage production.

TABLE 15
ECONOMIC ASSESSMENT OF LIVESTOCK OPERATIONS UNDER ALTERNATIVE 6*

Representative Ranch Size (AUs)	Existing Situation	Alternative 6 Less Intensive Management of Livestock Grazing
	Mean % Change in Livestock AUMs after Initial Adjustment	
70	--	-16
116	--	-18
224	--	-15
651	--	-22
	Mean % Change in Livestock AUMs 15 Years after AMP Implementation	
70	--	-2
116	--	-6
224	--	+5
651	--	-3
	Net Ranch Cash Income after Initial Adjustment in Livestock AUMs	
70	$ 600	$ 100
116	3,800	1,600
224	400	-1,400
651	31,700	22,900
	Net Ranch Cash Income 15 Years after AMP Implementation	
70	$ 600	$ 2,600
116	3,800	5,400
224	400	6,500
651	31,700	42,000

*Compare this table to table 3-18, page 167 of draft EIS.

CHAPTER 5

CONSULTATION AND COORDINATION

PREPARATION OF THE DRAFT EIS

During preparation of the draft EIS, BLM sought information from State and Federal agencies and universities with expertise relating to the proposed action. Records of correspondence are on file in the Arizona Strip District office.

The Arizona Strip District issued news releases describing the EIS and requesting the contribution of interested individuals and groups. As a follow-up to the news releases, the District wrote letters to a broad spectrum of resource users, groups, individuals, and agencies. These letters described the Shivwits EIS and requested information, opinions, and suggestions on its preparation.

The District prepared a briefing on the actions proposed in the EIS and presented it to congressional delegations, county commissions, livestock associations, and other interested groups and individuals. It also held an open house to receive comments on the Grand Wash Management Framework Plan, the source of the proposed action's provisions.

REVIEW OF THE DRAFT EIS

Comments on the draft EIS were requested from the following agencies and interest groups:

Advisory Council on Historic Preservation
Department of Agriculture
- Agricultural Stabilization and Conservation Service
- Forest Service
- Soil Conservation Service

Department of the Interior
- Bureau of Indian Affairs
- Bureau of Mines
- Heritage Conservation and Recreation Service
- National Park Service
- U.S. Fish and Wildlife Service
- U.S. Geological Survey
- Water and Power Resources Service

Environmental Protection Agency

Arizona, Nevada, and Utah Congressional Delegations

State Agencies

Arizona
- Arizona Agriculture and Horiticulture Commission
- Arizona Association of Conservation Districts
- Arizona Department of Library and Archives
- Arizona Department of Transportation
- Arizona Game and Fish Department
- Arizona Indian Affairs Commission
- Arizona Natural Resource Conservation Districts
- Arizona Office of Arid Land Studies
- Arizona Office of Economic Planning and Development
- Arizona Outdoor Recreation Coordinating Commission
- Arizona State Clearinghouse
- Arizona State Historic Preservation Officer
- Arizona State Land Commissioner
- Arizona State Parks Board
- Commission on Arizona Environment
- Director, League of Arizona Cities and Towns
- State Department of Property Evaluation

Nevada
- Governor's Office
- Nevada Department of Conservation and Natural Resources
- Nevada Department of Economic Development
- Nevada Fish and Game Department
- Nevada State Clearinghouse
- Nevada State Historic Preservation Officer

Utah
- Commissioner, Utah Department of Agriculture
- Utah Division of Lands
- Utah Division of Natural Resources
- Utah Division of Wildlife Resources
- Utah Environment Center
- Utah Office of State Planning
- Utah State Clearinghouse
- Utah State Engineer
- Utah State Historic Preservation Officer

Local Government
- Clark County Commissioners
- Clark County Cooperative Extension Service
- Clark County Planning Commission
- Clark County Planning Department
- District IV Council of Governments
- Fredonia Town Council
- Hurricane Town Council
- Iron County Extension Service
- Littlefield Town Council
- Mayor of St. George
- Mohave County Board of Supervisors
- Mohave County Extension Service
- Mohave County Manager

Mohave County Planning and Zoning Commission
Northern Arizona Council of Government
Washington County Commission
Washington County Extension Service

Other Organizations

American Fisheries Society
Amerind Foundation
Arizona Archaeological Society
Arizona Association of Earth Science Clubs
Arizona Camping Association
Arizona Cattle Growers Association
Arizona Conservation Council
Arizona Desert Bighorn Sheep Society
Arizona Farm Bureau Federation
Arizona Roadside Council
Arizona Wilderness Study Committee
Arizona Wildlife Federation
Arizona Wildlife Society
Arizona Wool Growers Association
Defenders of Wildlife
Desert Research Institute
Friends of the Earth
Isaak Walton League of America
Hurricane Chamber of Commerce
Littlefield-Hurricane Valley Conservation District
Mohave County Cattle Growers Association
Mohave County Farm Bureau
Mohave Sportsman Club
National 4-Wheel Drive Association
National Council of Public Land Users
Natural Resources Defense Council
Nature Conservancy
Sierra Club
Society for Range Management
Utah Cattlemen's Association
Utah Wool Growers Association
Washington County Cattlemen's Association
Washington County Farm Bureau
Wilderness Society
Wildlife Federation

Interested Individuals

Copies of this final EIS may be examined by the public at the locations listed below:

Bureau of Land Management Offices

Washington Office of Public Affairs
18th and C Streets, N.W.
Washington, D.C. 20240
Phone: (202) 343-4151

Arizona State Office
2400 Valley Bank Center
Phoenix, AZ 85073
Phone: (602) 261-3873

Arizona Strip District Office
196 E. Tabernacle
St. George, UT 84770
Phone: (801) 673-3545

PUBLIC COMMENTS ON THE DRAFT EIS

PUBLIC REVIEW PROCESS AND PROCEDURES

The draft EIS was filed with the Environmental Protection Agency on December 10, 1979. The 45-day comment period extended from December 28, 1979 to February 11, 1980. A notice of availability of the draft EIS and a public hearing announcement were published in the Federal Register on January 4, 1980.

Over 600 copies of the draft EIS were mailed to Federal, State, and local government agencies, private groups and organizations, and individuals for review and comment. News releases from Washington and Phoenix provided information on how to obtain copies of the draft EIS and where to examine reference copies.

All written comments and the hearing transcripts will be sent with the final EIS to the Secretary of the Interior and the Environmental Protection Agency. They may also be inspected at the State Director's Office, BLM, Phoenix, Arizona; the BLM Office of Public Affairs, Washington, D.C.; and the Arizona Strip District Office, St. George, Utah.

BLM reviewed and considered all comments and responded to those presenting new data, questioning findings of analyses, or raising questions or issues relating directly to the environmental impacts of the proposed action or alternatives. BLM did not respond to comments not addressing the proposed action or the draft EIS.

Although the public review period ended on February 11, 1980, BLM addressed 23 comments received through February 19, 1980.

PUBLIC HEARINGS

BLM conducted a formal public hearing on the draft EIS on January 30, 1980 in St. George, Utah. Four BLM representatives served on the hearing panel. Twenty-four individuals (not including BLM personnel) attended the hearing, and six testified. A Hearings Officer from the Department of the Interior presided, and a court reporter recorded the proceedings verbatim. The full hearing transcripts may be reviewed in the Arizona Strip District office.

Responses to the Public Hearing Comments
St. George, Utah Hearing. Jan. 30, 1980.

Index No.	Speaker*	Representing
1-2	Barnard Seegmiller	(Self-Rancher)
3-5	Clayton Atkin	(Self-Rancher)
6-8	Duane Blake	(Self-Rancher)
9	Charles Crosby	(Self-Rancher)

*List includes only speakers whose comments required a response.

INDIVIDUAL COMMENTS AT PUBLIC HEARINGS

St. George, Utah -- January 30, 1980

Index No.	Comment	Response
1.	One of the great concerns I have, and it continues to be concern, is the fact that the range, the livestock users, has not been consulted enough on the type and suitability and the location of improvements make them worthwhile as an investment. That needs to be changed.	1. See the Arizona Strip District Manager's Statement.
2.	I think that the fence modification proposal, for the introduction of, or reintroduction of antelope, is something that is not necessary. I think the antelope would survive just as well without it. I think it would be costly, it would create problems. One thing that occurs to me is, who assumes the maintenance on that fence, which presently is assumed by the range operator, in most instances. If that modification is to be done, certainly then the responsibility for maintenance has to be changed.	2. The proposed fence modification is a matter of BLM policy and must be carried out on public lands considered antelope range. BLM's experience to date shows the modification to be relatively inexpensive, and maintenance costs in some cases have been reduced. If the fences in question are carried on a cooperative agreement assigning maintenance responsibility to the livestock operator or in a Section 4 authorized improvement, the operator will continue to be responsible for maintenance after the modification is complete.

Index No.	Comment	Response
3.	On page 19, again, I think there are several inactive season number of these allotments within particularly the ephemeral range. I feel the BLM needs to take another look at seasons of use, i.e., Quail Canyon for 6 months, during which they don't have the use of that country in any growing season, as I read this statement through here. And I feel that -- I feel and have heard from top BLM officials in Washington and a meeting I've been in with just last week, is that they're taking another hard look at this, taking the livestock off of range for 2 months in the spring, and some of these unnecessary rest-rotation systems thing they've been trying to implement in some areas on these ephemeral ranges. And I think they need to use good judgment in these conditions. I know that livestock people as a whole are really hung up with the BLM on some of these things that are proposed in some of this desert area around here lately.	3. See the Arizona Strip District Manager's Statement.

Index No.	Comment	Response
4.	Page 29: here again, I think we're getting hung up on wildlife. They now have access to all the water. And I don't like their design, this new fence that they're trying to impose on us now. It's too high off the ground and game just don't need to have access all the way along a fence. There are lots of holes in the fence; there's dips or washes, and that, where they can get under, and most game will jump the fence. Not all antelope will, but most of them will. And the idea of modifying these existing fences in wildlife habitat area is ridiculous and unnecessary and too expensive.	4. Water sources on public lands must be accessible to native wildlife. BLM's goal is to manage rangelands under the multiple-use principle. Many stock reservoirs within the Shivwits EIS area are not accessible to wildlife primarily due to net wire fences around reservoirs. Mortality of mule deer entanglement in fences is documented in the District office files. The extent of mortality, however, is not known. BLM Manual 1737 was developed to set fence standards to allow wildlife safe passage and still hold livestock. Research has shown that both mule deer and antelope are creatures of habit. They select specific points along a fence to cross, regardless of whether washes, dips, or gates are nearby. Antelope are especially hindered by fences and will rarely attempt to jump. Therefore in antelope concentration areas, fences must be high enough (16 inches) to permit free movement. Where movement is restricted, antelope are highly susceptible to predation.

Index No.	Comment	Response
5.	On pages 51 through 56, it talks about sediment yield, and it has a chart on number 2-a on page 56. And this lists Mainstreet as 57.3, one of the highest in these allotments. I thought at first, when I read it, it was the highest, but there's a couple out at Parashaunt that are higher than this. And I don't think this is a true statement, in my opinion. As our experience out there in the Mainstreet area is a flatter area; it doesn't have near as heavy of sediment deposit as it does in the steeper areas up next to Poverty Mountain or over to Wolfhole Mountain . . .	5. See response to written comment 22-1.
6.	Grazing capacity studies and the methodology used are still questionable. In table 1-2 on pages 13 and 14, if you divide the number of AUMs in the Wolfhole Canyon allotment into the number of acres, we find it takes 22.5 acres to support 1 AUM. In checking other allotments in the table, I	6. The discrepancy between the carrying capacities of Wolfhole Canyon Spring allotment (22 acres/AUM) and Wolfhole Lake allotment (9 acres/AUM) results from much of Wolfhole Canyon Spring allotment's being in an area of low precipitation--6 to 10 inches per year--and all of Wolfhole Lake allotment's being in the 10- to 14-inch annual

Index No.	Comment	Response
	find that there is too much variation in the number of acres per AUM. One allotment shows approximately 9 acres per AUM within the same general area. These extreme variations should be looked at as to mistakes in the table itself or in the carrying capacity studies that supplied this data.	precipitation zone, where a higher carrying capacity can be expected.
7.	I would dare say that many of the reservoirs in this class are built under Section 4 permits and may be base waters; therefore, it would seem to me that fencing these reservoirs without permission of the Section 4 permit holders could possibly bring about legal problems.	7. The Federal Land Policy and Management Act mandates BLM to manage public lands under the multiple-use concept. The Section 4 permit allows the holder to install and maintain an improvement on the public land. It does not represent an absolute right to the land use. All Section 4 permits specify construction and maintenance stipulations for achieving objectives in the land use plan (43 CFR 4120.6-4). Step II recommendations for the Grand Wash Management Framework Plan propose fencing such reservoirs.

Index No.	Comment	Response
8.	I object to the methods used to determine the forage allocation for wildlife. Arizona Game and Fish Department and BLM wildlife personnel cooperatively formulated a wildlife forage allocation to satisfy the needs of a "reasonable number" of big-game animals. Bear in mind that they were also the ones who determined what the "reasonable number" was. Was there no one else involved in this proposal? Were these proposals questioned or contested in any way? Did anyone have this opportunity? It seems to me that a more equitable way would be to incorporate a broad degree of input into these determinations.	8. An estimate of reasonable deer numbers was extrapolated from the best existing biological information. Biologists used harvest data, herd composition surveys, and knowledge of the area to estimate present and potential deer numbers. Mule deer forage allocation was then based on habitat area, season of use, and elevation. Forage allowances calculated according to reasonable mule deer numbers were reviewed by the public from March 27-29, 1979. Comments received during the open house for the Grand Wash Management Framework Plan (MFP) did not question or contest these allocations. The previous Grand Wash MFP identified the need to allocate forage for deer. This document was open to public review in 1973. BLM and Arizona Game and Fish Department personnel jointly participated in this effort.

Index No.	Comment	Response
9.	Other than looking specifically at our allotment and the proposed plan for it, it is awfully confusing to me and befuddling, how in this 20-section area they propose to divide it into three pastures with 1.6 miles of fence and one water development. I think it's impossible. I'd like to see if that plan has already been drawn up and if we can go over it and see if there's any compromises or consideration on the part of the operator in that area as to how this is to be done. In my mind, I can't imagine how you can divide up three pastures with 1.6 mile of fence and one water development. I think it's an impossibility, and I'd like to see if that plan is already on paper or how it was divided and what it is going to amount to.	9. See the Arizona Strip District Manager's Statement.

WRITTEN COMMENTS ON THE SHIVWITS DRAFT EIS

Letter No.	
1	Mohave County Planning and Zoning Commission
2	Arizona Commission of Agriculture and Horticulture
3	William F. Briney
4	Maricopa Audubon Society
5	Russell J. Gaspar
6	Bureau of Mines
7	William E. Southern
8	The Wilderness Society
9	U.S. Fish and Wildlife Service
10	Soil Conservation Service
11	Water and Power Resources Service
12	Arizona Game & Fish Department
13	Wild Horse Organized Assistance
14	Environmental Protection Agency
15	Heritage Conservation and Recreation Service
16	Nicholas Van Pelt
17	Lemoyne Esplin
18	Desert Tortoise Council
19	Arizona State Clearinghouse
20	Sierra Club
21	National Resources Defense Council
22	Clayton Atkin
23	Brent Atkin
24	National Park Service
25	Arizona Department of Health Services
26	Utah State Clearinghouse
26a	Utah Division of Wildlife Resources
27	Arizona State Land Department

1

MOHAVE COUNTY PLANNING AND ZONING COMMISSION

Mohave County Annex • 301 W. Beale Street • Kingman, Arizona 86401 • 753-9141, Ext. 284

DENIS MALM
CHAIRMAN

VERNON G. FASS
DIRECTOR

December 26, 1979

Mr. Robert Buffington
Arizona State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

RE: Shivwits Proposed Grazing Management Program

Dear Mr. Buffington:

The Mohave County Planning and Zoning Department has reviewed the Draft Environmental Impact Statement for the Shivwits Grazing Management Program, and feel that the Statement is quite equitable. We did not find any area of controversy in this document, as far as our land use plans are concerned.

We would like to thank you for the opportunity to review and comment on this proposal and would also like to commend you and your staff on a fine job.

Sincerely,

Dennis E. Roberts
Planner

DER/sb

2

Arizona Commission of Agriculture and Horticulture

1688 WEST ADAMS • PHOENIX, ARIZONA 85007 • (602) 255-4373

Jaunary 4, 1979

Arizona State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

RE: Proposed Livestock Grazing Management Program, Shivwits Resource Area, Mohave County Arizona

Dear Sir:

2-1 This Commission is concerned about the water development, fence construction and land treatment aspects of your management program as these things will affect protected native plants in the area.

We will be glad to work with your agency in developing a fesible plan for salvaging protected native plants that would be in danger as a result of the development.

The Arizona Native plant law requires federal land owners to notify the Commission 30 days before the development occurs. Please contact me for further information.

Sincerely,

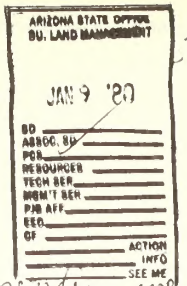
R. A. Countryman
Division Director

RAC:bj

RESPONSE:

2-1 BLM will cooperate with the Arizona Agriculture and Horticulture Commission in protecting native plants identified for protection.

3



jan 80

Arizona State Director
Bureau of Land Management
2466 Valley Bank Center
Phoenix, Arizona 85073

Dear Sir:

Thank you for sending me a copy of the Draft Environmental Impact Statement for the Proposed Livestock Grazing Management Program for the Shivwits Resource Area. The deterioration of the range over thousands of acres of BLM lands in the West is well known. We believe this proposed program is an excellent step forward toward the goal of improving the rangelands and we support the program as outlined and the efforts of the BLM in general in these endeavors. We recognize further that there will be intensive efforts behind the scenes by short-sighted private interests to turn back this fine program. We urge the BLM to stand fast for the expected long range improvements we recount these interests of the multiple use concept governing public lands.

I am personally concerned about the issue of spraying of chemicals, presumably herbicides, for control of certain species of vegetation in the land treatment portion of the program. I would like to suggest that this not be done unless no other method is available.

3-1

We also urge continued protection of the Paunt Primitive area and the other potential wilderness areas identified in the recent inventories in the resource area as the management plan unfolds.

Sincerely yours,

William F Buivey

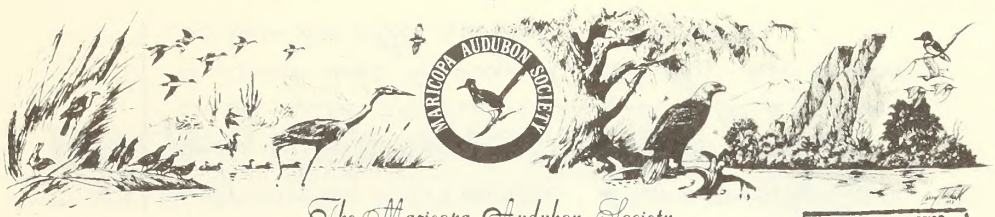
Prescott Chapter I. W. L. A.
Box 66 V. A. C.
Prescott, Arizona 86313

c.c. Sen. DeConcini

RESPONSE:

3-1 The Shivwits grazing management program does not propose spraying as a means of land treatment.

4



The Maricopa Audubon Society
4619 East Arcadia Lane • Phoenix, Arizona 85018

January 7, 1979

State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix, AZ 85073

Dear Sir:

We wish to congratulate the BLM for its new livestock-grazing plan for the Shivwits Resource Area. It reveals an attitude toward the long term benefits for both grazing and wildlife.

We commend the proposed allocation of forage to wildlife and resource conservation, not to mention the creation of of better habitat for non-game species..

It's nice to hear of a plan that would benefit both the rancher and the ecosytems in which he works.

Sincerely,

Robert A. Witzeman

Robert A. Witzeman, M.D.
Conservation Chairperson

RAW/rs

5

Law Offices
McCandless & Barrett
1707 H Street, N.W.
Washington, D.C. 20006

ROBERT C. McCANDLESS
DAVID M. BARRETT
RUSSELL J. GASPAR
RICHARD S. REISMAN
ROBERT R. LOCKLIN
JOSEPH E. SCHULER

CABLE: "SOONER"
SUITE 1005
(202) 223-8440

January 9, 1980

Arizona State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

Dear Sir:

I am writing on behalf of the American Horse Protection Association, Inc., to submit comments concerning the draft Environmental Impact Statement for the proposed livestock grazing management program in the Shivwits Resource Area.

AHPA was encouraged to learn that the 100 wild, free-roaming burros in the Tassi Grazing Allotment will be allocated forage sufficient to support their current number. However, the draft EIS makes no provision for future herd growth. Since the overall objective of the grazing program that will be instituted is to improve the productivity of the rangelands, AHPA believes very strongly that wild burros should share in the increased productivity through an allowance for herd growth as range conditions permit. 5-1

Furthermore, there appear to be discrepancies in the information concerning the Tassi allotment that lead AHPA to question whether the burro population ought to be fixed at 100 animals at this time. The draft EIS (at page 147) states that the proposed management action would establish the livestock stocking rate on the Tassi allotment at 1,529 AUMs -- an increase of 404 AUMs above the current five-year average licensed used. However, table 1-3 indicates that the initial livestock stocking rate will be 2,292 AUMs -- an increase of 1,205. AHPA has not been able to reconcile this difference. However, it is clear that overall livestock use in the allotment will be increased immediately. AHPA

5-1 con't | believes that some portion of their presently unused capacity ought to be reserved for future growth of the burro herd. Since burros consume relatively little forage -- only 5 AUMs per animal per year -- the impact of reserving additional forage for burros will be very small. This is especially true in light of the fact that there are apparently over 1,200 AUMs available to be allocated immediately.

In light of the discrepancy of the amount of forage available, and given the lack of information concerning burro population characteristics, AHPA cannot submit more detailed comments at this time. However, AHPA will be happy to review and comment on any additional information relating to the burros.

Very truly yours,

McCANDLESS & BARRETT

By Russell J. Gaspar
Russell J. Gaspar

RJG/ll

cc: Joan Blue

RESPONSE:

5-1 The discrepancies in the information are caused by an error. Table 1-3 is correct, but the discussion on page 147 is in error. The errorresulted from the Tassi allotment's shift to a proposed deferred grazing system from a proposed rest-rotation grazing system, which would have reduced the allotment's carrying capacity to the carrying capacity of two pastures--1,529 AUMs. The simpler deferred rotation grazing, which requires fewer range improvements, allows all pastures to be grazed during certain periods of the year.

Our vegetation inventories show additional forage, but much of it is too far from water to be used by livestock or burros. The additional AUMs shown for the allotment may be allowed when further waters are developed. The Grand Wash MFP recommends allocating 600 AUMs for burros in the Tassi herd (Arizona) and maintaining a population of 100-150 adult animals, which would allow for a population increase.

Since the burro portion of the EIS was written, a survey using the Lincoln Index determined the Tassi burro population in Arizona to be 90 animals. This same survey determined the total herd to comprise 354 animals in Arizona and Nevada. To some extent these animals cross the State line but stay within 2 miles of Lake Mead and scattered springs. Burros are overgrazing the range in Nevada. To greatly increase the population in Arizona would increase the population in Nevada, where burros are already destroying the habitat.

During fiscal year 1981 Arizona Strip District BLM will develop a herd management area plan (HMAP) cooperatively with Lake Mead National Recreation Area and the Las Vegas District BLM to learn more about the herd and the habitat involved. We hope this plan will give us the information needed to successfully manage the herd.

6

United States Department of the Interior

BUREAU OF MINES

BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

Office of Chief

Intermountain Field Operations Center

January 17, 1980

Memorandum

To: Arizona State Director, Bureau of Land Management, 2400 Valley Bank Center, Phoenix, Arizona 85073

From: Chief, Intermountain Field Operations Center

Subject: Draft environmental impact statement, Shivwits Proposed Grazing Management, Arizona

Personnel of the Intermountain Field Operations Center, Bureau of Mines, have reviewed the subject DEIS for possible conflict between the proposed plan and mineral resources or mineral facilities as you requested.

Mineral resources known to be within or near the proposed management area include a rather lengthy list of commodities. The following table lists the known mineral resources of the area as shown by the Arizona Bureau of Mines in its Folio of Geologic and Mineral Maps of Arizona. The maps also list the Bentley mining district as occurring in the area.

Metallic Resources	Nonmetallic Resources	Fuel Resources
Copper	Gypsum	Uranium
Lead	Salt	Thorium
Zinc	Mica	Thermal Springs
Silver	Dolomite	
Nickel	Kyanite	
Tungsten	Andalusite	
Vanadium	Sillimanite	
Rare Earths	Zeolites	
Beryllium	Sand and Gravel	
Lithium		
Zirconium		
Manganese		

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

40

6-1 Although we believe the proposed grazing plan would have virtually no effect on the mineral resources themselves, the DEIS does not mention minerals or BLM policy toward mineral resource development. We suggest that subsequent versions of the document list mineral resources of the area and explain what effect, if any, the plan might have on their future development. Otherwise, we have no objection to the document as written.

Joseph B. Smith

Joseph B. Smith

RESPONSE:

6-1 The EIS process as outlined by the Council on Environmental Quality (CEQ) specifically restricts EISs to discuss in detail only those resources that would be impacted should the proposed action or any alternative be implemented. To reduce the size of the document and comply with the CEQ guidelines, we deleted this discussion.

7

Northern Illinois University
DeKalb, Illinois 60115

Department of Biological Sciences
815 753 1753

19 January 1980

Arizona State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

Dear Sir:

I submit the following comments in response to the Draft EIS for the Proposed Livestock Grazing Management Program, Shivwits Resource Area, Mohave County, Arizona.

In my opinion, steps must be taken to reduce the impact of livestock grazing on wildlife populations in this portion of Arizona. Alternative 2 achieves this goal to some extent without placing severe limitations on the livestock industry. I would like to recommend that Alternative 2 be modified to place more severe restrictions on grazing in areas of primary importance to wildlife species such as Pronghorn Antelope, Desert Bighorn Sheep and the Desert Tortoise.

7-1 Portions of the primary ranges of such species should be closed to all grazing. Areas immediately surrounding these localities should have low level grazing and serve as buffer zones. Outside of the buffer area, management would be as defined under Alternative 2. The size of the 'core area' for the select group of wildlife species and of the surrounding buffer zone should be based on recommendations of experts familiar with each of the species. Vegetative manipulation

7-2 within these areas should be based on wildlife needs and values rather than the needs of livestock.

Nongame wildlife must be considered in the proposed actions. Portions of the Shivwits Resource Area should be managed under Alternative 3.

7-2 In these localities, vegetation will not be manipulated and native vegetation will be permitted to develop in a natural state. Nongame native to such habitats would benefit from such a program. Again the size and location of such areas should be determined through consultation with local experts familiar with the requirements of key species.

7-3 Spring and riparian habitats must be protected from livestock damage. The associated habitats should be permitted to develop without manipulation.

I feel that a modified version of Alternative 2 (as indicated above) would reduce livestock grazing on this area to a tolerable level. Although important, livestock grazing should not be permitted to damage resources of value to the public. Carrying capacity for the range should be based on the combined needs of wildlife and livestock. In such cases the number of cattle and livestock present on ranges would have to be regulated. This is a difficult but not impossible task.

Sincerely yours,

William E. Southern, Professor

RESPONSE:

7-1 The proposed action and alternatives 1, 2, 3, and 4 are not expected to improve habitat for bighorn sheep. Elimination of livestock grazing in bighorn habitat would be premature without a more in-depth analysis. The majority of sheep inhabit Grand Canyon National Park and are transient on BLM-managed public lands. This year the Grand Wash Cliff area will be analyzed through a habitat management plan (HMP) to determine the potential for bighorn reintroduction, including habitat deficiences and conflicts.

The Virgin Mountain bighorn sheep release is in progress. The exclosure contains 18 bighorns, which will be periodically released. Range suitability criteria will be applied to livestock grazing in the Virgin Mountains, and livestock will be removed from areas if their presence is found to be incompatible with good resource management.

The same situation is true for pronghorn antelope. Sixty pronghorn have been released into Hurricane Valley under the Clayhole HMP. We are waiting to allow animals to stabilize and then ascertain use areas. Once use areas are known, we can analyze habitat condition in greater detail.

As stipulated in the EIS, desert tortoise concentration areas would be intensively managed. Habitats with high tortoise densities--50/square mile--would be grazed under a management system that assures improvement of the habitat or requires a reduced stocking rate to assure improvement. Certain areas may be fenced to exclude livestock grazing.

BLM recognizes bighorn sheep, pronghorn antelope, and desert tortoise as species requiring relatively unaltered habitats.

In many instances the distribution of a species is difficult to determine, expecially if its numbers are low. For instance, desert tortoise distribution is patchy, scattered, and covers large areas.

7-2 BLM's current policy toward vegetation manipulation is to design treatment areas to benefit all species. Treatment areas are narrow with a good interspersion of native habitat. Approximately a third of native habitat in a localized area is left untreated. BLM will inventory specific areas before treatment to assess wildlife values. A BLM-funded study is underway to determine the best size and shape of treated areas for nongame birds in pinyon-juniper woodland. BLM biologists recognize that native habitats are heterogeneous and should be evaluated on a case-by-case basis to adequately assess impacts of manipulated habitats.

7-3 All significant spring and riparian habitats are to be fenced under the proposed action and alternatives 1, 2, 3, and 4. The EIS area has many small ephemeral seeps that are not economically feasible to fence. Highest priority will be given to fencing major springs unless rare, endangered, or threatened wildlife species are present.

BLM is mandated to manage resources under the multiple-use concept. Proper livestock grazing is our ultimate goal to ensure productive habitats for wildlife. When livestock grazing is properly applied, many wildlife species can benefit. Species that require climax conditions, however, need special attention.

8

The Wilderness Society

~~1901 Pennsylvania Ave, N.W. Washington, D.C. 20006 (202) 293-2732~~

The Wilderness Society
Southwest Regional Office
P.O. Box 1160
Bernalillo, NM 87004
(505) 867-3139

January 24, 1980

Arizona State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix, AZ 85073

Dear sir

I would like to offer the follcwing comments on the Shivwits Grazing DES.

The Wilderness Society is in strong support of the Bureau's grazing ES program as a means to develop necessary base information to plan proper grazing management on the public lands. We are also in support of the Bureau's commitment to balance livestock use properly with the capacity of the range and with the other important multiple uses. We also believe that a healthy livestock industry is essential to the West remaining the West and that one of the key elements in maintaining a healthy livestock industry is a healthy range.

Where necessary, we support reductions in authorized AUM's. Proper balancing of livestock numbers to available forage (with due consideration given to wildlife needs) should be the primary management tcol on most public rangelands.

8-1 I am concerned that the Shivwits plan is essentially oriented to single use dominance in the Arizona Strip and that other multiple uses and values are not given adequate consideration. Moreover, the Bureau seems tc have a built in bias towards intensive grazing management systems even when they are not justified by a favorable cost-benefit ratio or improvement in forage potential. An alternative that should be considered on the Shivwits is less intensive management with proper stocking. The Arizona Strip is one of the wildest and most remote open space regions of the United States but if the plan was placed into effect with its over reliance on physical range improvements much of this nationally significant open space resource would be lost. In other words, the plan has the potential for replacing a remnant of the West of the 19th century with something more on the order of a factory cow farm. I doubt whether this intensive management can be justified economically.

I hope that you will give serious consideration to less intensive grazing management alternatives.

I might also add that very consideration was given in the DES on the impact intensive range management would have on the remarkable wilderness values of much of the Shivwits area.

Thank you for this opportunity to comment.

Sincerely

Dave Foreman
Southwest Representative

cc: Linda Lewis
Debbie Sease
Dawson Henderson
Johanna Wald

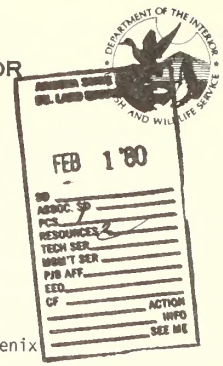
RESPONSE:

8-1 Refer to District Manager's Statement and the discussion of alternative 6, Less Intensive Management.

9

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Ecological Services
2934 W. Fairmount Avenue
Phoenix, Arizona 85017



January 31, 1980

Memorandum

To: State Director, Bureau of Land Management, Phoenix

From: Acting Field Supervisor, Phoenix (ES)

Subject: Draft Environmental Impact Statement for the Proposed Livestock Grazing Management Program, Shivwits Resource Area, Mohave County, Arizona

We have reviewed the subject draft environmental impact statement and have determined that the document adequately considers matters of jurisdictional concern to this Service.

Alternative 2 (Stocking Level by Condition Class) would allow ranges in poor or fair condition to recover faster than they would under the proposed action and would improve existing vegetation the most. This rest rotation system would also decrease competition between wildlife and livestock for food and cover. We, therefore, believe that Alternative 2 would benefit wildlife habitat best and recommend that it be implemented in lieu of the proposed action.

Thank you for the opportunity to comment on the subject draft EIS.

Thomas E Shall

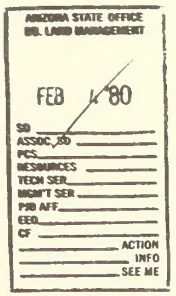
cc:
Director, Arizona Game and Fish Dept., Phoenix
Area Manager, USFWS, Phoenix

10

United States Department of Agriculture — Soil Conservation Service

3008 Federal Building
230 North First Avenue
Phoenix, Arizona 85025

February 1, 1980



Clair M. Whitlock
Arizona State Director
USDI Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

Dear Mr. Whitlock:

The following are our comments on the Shivwits Proposed Grazing Management DEIS:

10-1 | 1. Page 4, Column 1, Para. 2 -- Does the word "disturbed" in this paragraph mean the same as deterioration of the resource as a result of development of water?

10-2 | 2. Page 4, Column 2, Para. 2 -- Total exclusion of both wildfire and livestock often creates decadent plant stands on western ranges. We suggest you discuss the need for stimulation of plantstands by both fire and livestock.

10-3 | 3. Page 4, Column 2, Para. 3 -- We feel that you may have overstated the impacts in this paragraph. 125 acres out of 1,848,894 acres is exceedingly small and barely deserves this much emphasis. If brush and tree removal is done in patterns, research shows an increase in diversity of wildlife due to increasing the diversity of vegetation. (See "The P-J Type in Arizona", by Arnold, Jameson and Reid, 1964. RR No. 84, USDA-FS) FAP W-101-R in 48th Annual Conf. of Western Assoc. State Game and Fish Commission, 1968 (Range Type Conversions in Colorado and their Impact on Deer, Elk, and Sage Grouse). Also, see references in Game Range Improvements, ARS-USDA, Las Cruces, New Mexico, 1971, for further information.

10-4 | 4. Page 5, Column 1, Para. 1 -- We do not understand the statement, "Alternative 2 would produce the largest average annual long-term increase - $457,000 - although initial ANM adjustments under Alternative 2 might force operators out of business". Where would the increase come from if operators went out of business?

10-5 | 5. Page 21, Column 2, All -- The 3-Pasture Deferred Rotation Treatment schedule and the 2-Pasture Deferred Rotation Treatment schedule, shown in Table 1-3, Page 24, seem not to follow the spring rest 1-year-in-3 criteria. In both systems, pastures are not given spring rest as outlined in the criteria.

10-6 | 6. Page 36, Interrelationships -- We suggest you change this to read, "Close coordination as outlined in 'The Supplemental Agreement to the National Memo of Understanding Among Soil Conservation Service, Bureau of Land Management, U.S. Forest Service, State Land Department and Natural Resource Conservation Districts' is required, to accomplish goals and avoid resource use conflicts."

10-7 | 7. Page 41, Climate and Air Quality, Para. 1 -- We would suggest that you change 'rainfall' to 'precipitation'.

10-8 | 8. Page 41, Vegetation—Vegatation Subtypes -- A sagebrush vegetation subtype, for example, may consist of 100% sagebrush, or as little as 10% sagebrush, as long as sagebrush is the dominant species. Can you clarify the statement? Do the percentages relate to composition, density, canopy, visual dominance, etc?

10-9 | 9. Page 42, Figure 2-1 -- Can you label the figure? Is it a composite or interpolation of several weather stations, or is it a single station?

10-10 | 10. Page 48, Para. 4 -- Can you explain how range condition is determined? The public might assume that the classes are arbitrary.

10-11 | 11. In general, we question the validity of any system of range inventory based solely on rainfall (Jenson Inventory Method). It does not establish potential.

10-12 | 12. Page 71, Column 2, Para. 3 -- We suggest you change 'invertebrate' to 'vertebrate' as prey species for the Black Hawk.

Thank you for the opportunity to comment. If you need further information, please call Don Gohmert, at 261-6711.

Thomas G. Rockenbaugh
State Conservationist

cc: Norman Berg, Administrator, SCS, Washington D.C.
Kenneth L Williams, Dir., WTSC, SCS, Portland OR

RESPONSE:

10-1 Yes.

10-2 The relationship of fire to wildlife populations is discussed in more detail on page 147. The elimination of grazing would increase litter accumulation and the frequency of fire. In most areas with high fuel loading and conducive weather conditions we can do little to contain fire. This subject is discussed further in chapter 3, Vegetation.

10-3 Approximately 10,750 acres of habitat around water developments would remain in unsatisfactory condition. This estimate is based on the proposed 86 new water developments (125 acres/development) and habitat conditions around existing waters.

The mainipulation of vegetation, providing the proper interspersion of treated and native vegetation, would enhance habitat for game species. The diversity of nongame populations, specifically birds, however, would decline. Studies in progress indicate that birds in pinyon-juniper woodlands decrease in diversity when the tree canopy is eliminated. Although not verified in the literature, the same is suspected to be true for small mammals. The references cited in the comments deal with game species. For specific literature references, see table 3-7 (page 120) in the draft EIS.

10-4 The main text of the EIS relating to ranch economic consequences clarifies this point. The initial adjustment might force some ranchers out of business, but other ranchers could buy these operations. In the long term when forage increases, income from these operations is expected to increase.

10-5 Deferred rotation systems would be applied where the bulk of spring growth occurs after March 1. On the Whiterock-Soapstone allotment most growth occurs after March 1, and the deferred grazing system has shown success. The criterion you refer to is used where needed rather than rigidly applied to allotments not in a condition to require this protection.

10-6 BLM concurs with the suggestion.

10-7 This change is so noted.

10-8 The type is classed by the species having visual dominance.

10-9 The narrative on page 41 indicates that figure 2-1 represents an average of temperature and precipitation data from weather stations in or near the EIS area.

10-10 See page 189. In addition, see page 228 for a definition of soil surface factor.

10-11 The forage production method is based largely on data gathered at the U.S. Forest Service Desert Range Experiment Station (Utah) between 1934 and 1947. This method has been in use in Washington County, Utah and the Arizona Strip for 13 years. Intensive clipping and precipitation data were gathered in these areas for 6 years to determine production for the local vegetation types. The Arizona Strip District has used this method to determine the initial carrying capacities for allotments under implemented AMPs. Subsequent utilization and actual use studies on these allotments have shown this method to be more than adequate. Like range site descriptions, the method is based upon clipping studies correlated with rainfall.

10-12 The editorial comments have been noted.

11

United States Department of the Interior
WATER AND POWER RESOURCES SERVICE
~~BUREAU OF RECLAMATION~~
LOWER COLORADO REGIONAL OFFICE
P.O. BOX 427
BOULDER CITY, NEVADA 89005

IN REPLY REFER TO: LC-155
120.1

JAN 22 1980

JAN 24 '80

Mr. R. Buffington
Arizona State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

Dear Mr. Buffington:

The Draft Environmental Impact Statement for the Shivwits Proposed Grazing Management Plan has been reviewed by our appropriate offices. The proposed plan will not have an impact on any of the Water and Power's primary activities, however, we might mention the Lower Virgin River Salinity Control Unit is located about 10 miles south of Mesquite, on the Virgin River, but we forsee no problems associated with this at present.

Sincerely,

Herbert R. Gunther

F. Phillip Sharpe
Regional Environmental Officer

12

BRUCE BABBITT, *Governor*

Commissioners:
MILTON G. EVANS, Flagstaff, *Chairman*
C. GENE TOLLE, Phoenix
WILLIAM H. BEERS, Prescott
CHARLES F. ROBERTS, O.D., Bisbee
FRANK FERGUSON, JR., Yuma
Director
ROBERT A. JANTZEN

Asst. Director, Operations
PHIL M. COSPER

Asst. Director, Services
ROGER J. GRUENEWALD

ARIZONA GAME & FISH DEPARTMENT

2222 West Greenway Road Phoenix, Arizona 85023 942-3000

FEB 6 '80

February 5, 1980

Mr. Clair M. Whitlock
Arizona State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

Re: Draft Environmental Impact Statement - Livestock Grazing Management - Shivwits Resource Area

Dear Mr. Whitlock:

The Arizona Game and Fish Department has carefully reviewed the Shivwits DES, released December 1979, and we enthusiastically support the proposed implementation of livestock grazing management on 1,717,000 acres of Public land.

The DES is very well written and accurate, and the Department supports the conclusions stated therein. However, we do wish to offer comments on several items within the text of the document.

Page 4, Animals, Last Paragraph:

12-1 Fence construction need not be significantly detrimental to wildlife if the fences are properly constructed to wildlife specifications and strategically located.

Page 6, Mitigation:

12-2 In reference to the "series of studies to obtain data, upon which further mitigation will be based", it is assumed that there will be close coordination with the Department in this endeavor.

Page 9, Proposed Action:

12-3 The proposed action would reduce grazing AUM's 24% and would allocate 19.5% of the areas total AUM's to wildlife. We believe

AN EQUAL OPPORTUNITY AGENCY

12-3 con't the monitoring and evaluation of each allotment should be done several times within the 15 year target date for implementation to insure range trends are, in fact, improving.

Page 31, Wildlife Studies:

12-4 This section should reflect: Studies of population trends of game and nongame species will be coordinated with the Arizona Game and Fish Department.

Page 37, Table 1-9, 3a:

12-5 We believe pinyon nut collection to be insignificant on the Shivwits ES area and this should not be listed as a conflict with controlled burns or chaining.

Page 60, Desert Bighorn Sheep, Paragraph 1:

12-6 In the last sentence, we suggest the word probably be replaced with could have.

Page 64, Upland Game, Paragraph 2 and 3:

12-7 The turkey transplants were completed not attempted.

The recent turkey transplant was in January of 1978 and involved 12 not 10 birds.

Page 65, Birds of Prey, Paragraph 3:

12-8 We suggest changing suitable nesting habitat to critical nesting habitat.

Page 67, Amphibians and Reptiles, Paragraph 8:

12-9 It should be noted, in this section, that Betty Burge's study in 1979 was a very limited field survey of short duration.

Page 83, Visitor Use:

12-10 We believe visitor use data should be separated so that the less intensive visitor days of sight-seeing along the freeway in the Virgin Gorge are not directly compared to the more intensive visitor use-days such as hunting and hiking. Also, our data indicate the deer hunting estimate to be wrong. The following table is a suggested format for Table 2-23 on page 85:

12-10 con't

Less Intensive Recreation

Activity	Visitor Use
General Sightseeing Along Virgin River Gorge	104,025 days

Intensive Recreation

Activity	Visitor Use	% of Total
Hunting	-	-
Hiking	-	-
Nature Study	-	-
Photography	-	-
Primitive Camping	-	-
Collecting	-	-
Off-highway Sightseeing	-	-
Trapping	-	-

Our data for visitor use-days, based on questionnaire data and personnel checks by Wildlife Managers, indicate hunting to be a very important use of the Shivwits area. A breakdown of our information is as follows:

Hunting

Rifle Deer Hunting 4,535 (24 hr. days) x 2 =	9,070 days
Archery Deer Hunting	800
Quail & Rabbit Hunting	1,100
Dove Hunting	100
Waterfowl	500
Trapping	1,800
Total----------	13,370 days

The above figure would only be 10 to 20% less for 1975. This is much different than the 2,648 (days) listed in Table 2-23 for deer hunting only, in 1975. We suggest the Bureau consider all of the recreational uses of the Shivwits area in the table on page 85.

Page 163, Economic Impacts:

We suggest changing visitor use-day totals to reflect all uses.

12-10 con't

Additionally, we believe an average of 15 trappers use the Shivwits area on any given day through the trapping season. Therefore, 15 x 120 = 1,800 visitor days. An average trapper made $60/day in 1978. This would total $108,000 per year added to the local economy through trapping revenue.

The Department has evaluated the proposed action and the various alternatives and we favor Alternative No. 2 -- Stocking Level by Condition Class. This alternative would allow the range to recover faster and would improve 277,666 additional acres of mule deer habitat above the proposed action plan. We do realize this alternative may not be realistic because of the hardships imposed on the grazing allottees by a 64% reduction in AUM's. In either case, the proposed action or Alternative No. 2 would, if implemented, greatly improve the habitat for wildlife.

Thank you for the opportunity to comment on this Draft Environmental Impact Statement.

Sincerely,

Robert A. Jantzen, Director

Arthur F. Fuller
Wildlife Specialist
Kingman Regional Office

AFF:dd

cc: Planning and Evaluation Branch, Phoenix
State Clearinghouse 79-80-0077

RESPONSE:

12-1 The number of big-game animals that die attempting to cross fences is not known. A larger number of mule deer die in fences around waters than in boundary fences. Mortality connected with pasture or allotment fences in many instances is not detected. All fences constructed will meet wildlife specifications and will be located strategically. The 35 to 186 miles of new fence would increase the present rate of fence-related mortality.

12-2 Close coordination and cooperation with AG&FD on all studies and mitigation addressed in the EIS is essential.

12-3 Monitoring and evaluation is a continual process. Data on trend, utilization, and actual use are gathered yearly. See draft EIS, page 31.

12-4 See response to comment 12-2.

12-5 Specific areas have been identified as nut collection sites, where BLM resource specialists feel collectors would oppose land treatment.

12-6 The direct causes of the bighorn sheep decline can only be speculated. Hunting and illegal shooting could have contributed to the overall decline. The statement has been amended as requested.

12-7 and 8 These discrepancies have been noted.

12-9 Burge's (1979) inventory, although limited, consisted of 59 transects covering 59 linear miles in the Beaver Dam Slope and Pakoon areas. The study's intent was to determine relative tortoise abundances throughout Arizona. The EIS is in error; Burge made 59 transects, and population densities cannot be calculated by using tortoise sign scats. This initial study will allow us to concentrate our efforts in areas of higher tortoise abundances in attempting to maintain viable populations.

12-10 BLM appreciates the visitor use information provided and will use it in future planning and decisionmaking.

13

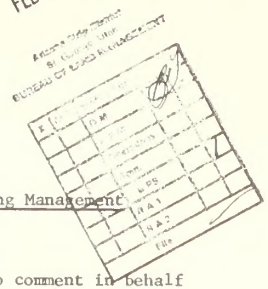
WHOA!

WILD HORSE ORGANIZED ASSISTANCE
INC.
A Foundation for the Welfare of
Wild Free-Roaming Horses and Burros

P. O. Box 555
Reno, Nevada 89504
Telephone 323-5908
Area Code 702

RECEIVED
FEB 4 '80

January 17, 1980



Dennis Carter, EIS Team Leader
Bureau of Land Management
Arizona Strip Office
196 E. Tabernacle
St. George, Utah 84770

Ref: Draft Shivwits Proposed Grazing Management

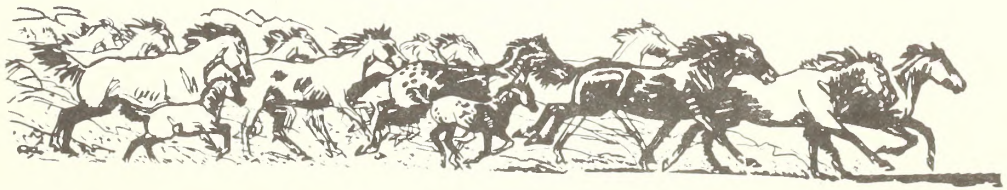
Dear Mr. Dennis:

We have recieved the above captioned EIS and desire to comment in behalf of WILD HORSE ORGANIZED ASSISTANCE (WHOA).

As is the case with previous range statements, the Bureau proposes to reverse the declining resource through intensively managed livestock grazing systems. We can and do appreciate the contribution to the nation's livestock roughage (8%); the use of livestock as a management tool; and the unique lifestyle. Many Americans would echo the lifestyle, uncomplicated by regulations and answerable to no one. Reality shocks us back to today's changing society and values. For too long the vested interests have promoted single use and contributed extensively to the resources' decline. We are concerned with the impacts of the proposed action as it pertains to wild free-roaming burros and wildlife in general.

13-1 The EIS abstract describes the benefits of the proposal in vegetation, wildlife habitat and forage, burro forage, watershed, and the long-term benefit of increased numbers to the livestock industry. Disappointedly we note that "optimum" numbers have been established for burros, with no consideration that they also would benefit, through increased numbers, from the proposed improvements--partially financed by the taxpayer. Certainly this must be an oversight if they are to be considered "comparably" with other resource users in multiple use.

13-2 Out of an area encompasssing 1,848,894 acres, 1,717,341 acres of which we are most concerned--the proposal would allow 64,305 AUMs for livestock (69%), 15,590 AUMs for wildlife (16%) and 500 AUMs for burros (.005%). WHOA! does not understand how the Bureau can develop a livestock grazing system when significant facts are either not known or at the least, not shown. Despite the fact that you have maps depicting existing improvements, burro habitat, and allotments; you have no map depicting the migration of the burros or what affect the improvements would have (fencing) on imigration or migration. Nor does it intimate that



13-2 con't data would be sought for the final or at any time in the near future. Any grazing design that does not totally take into consideration those affects on other users reflects blatant singe use management. In addition to the above there are several other points to be addressed by the EIS.

In the Bureau stages of programing, the agency has utilized present population levels with the estimated population levels (even incomplete) to project the impact of the burros upon the land resource, ususally to support a reduction in their numbers. It is with this experience that we querie the following: The April 14, 1978 court case (NRDC) stated the EIS shall ". . . discuss in 'detail' livestock grazing activities. . ." Since grazing trespass has been and still is a serious threat to the vegetative resource in addition to the historical or actual use, we wonder why no EIS has addressed this issue. We would surmise that if you can take an average to estimate the damages done by burros then the same could be done with the records of trespass. Certainly it would identify the real impact, explain the critical areas, and warrant closer monitoring in future programs.

TASSI

13-3 Table 1-3 states the estimated carrying capacity of the Tassi allotment is 2,292--the proposed action would maintain that number despite the fact that it is the only allotment with burros, is an overlap area for desert tortoise and the condition is poor and trend, static. We wonder where it states that all forage must be consumed simply because it is there. It is extremely doubtful that any meaningful changes will occur under that stocking level.

13-4 Page 73 states that burros possibly spend a portion of their time on NPS and NRA administered lands, but it is felt that the majority of time is spent on the allotment. If this is the case, and 100 burros are to be allocated forage, why does it allocate 500 AUMs? Our computation is one animal unit per month (12 x 100= 1200 AUMs). If the proposal is to fence the allotment to contain the livestock then we presume it would do the same for burros, in which case would be 1200 AUMs. If the Bureau only allocates 500 AUMs then approximately 41½ burros must spend their time elsewhere, in which we querie if the fencing would inhibit their migration. It is not explained how many miles of fence exist in the Tassi but one look at the map (plate 1) boggles the mind and one wonders if the Bureau is fencing the West for the livestock industry.

13-5 Page 33 requires seven addition positions for the proposal, none of which are wild burro specialists. The new positions, the increased cost of percentage of maintenance, the costs of improvements; question if this proposal has survived a cost benefit analysis of investment dollars from the taxpayer. Since supervision of AMP's is significantly inadequate, cooperation from permittees extremely poor, and funding is questionable; the approximate costs of improvements of $3.20 per AUM is a gamble. Considering the Bureau expects a 12.5% return on grazing fees in the amount of $59,500 per year; this proposal bespeaks of an increased subsidy program for marginal operations that are finding competition in the private sector increasingly difficult.

13-6 Page 9 and page 11 show one less intensively managed allotment, please clarify which.

13-7 Does the Arizona Strip District have any other way of determining actual use other than the 4412-B, such as ear tags?

13-8 Does the memorandum on page 36 include a cooperative agreement with the NPS on burro protection, management and control?

Since the proposal and the alternatives do not address the impacts of this action on the burros, we cannot endorse or recommend any portion of the draft. Should some alternatives be suggested we would happy to review them and comment. We will look forward to the final Shivwits Environmental Statement.

Most sincerely,

Dawn Y. Lappin

Dawn Y. Lappin (Mrs.)
Director

cc: Board of Trustees
Animal Protection Institute
Fund for Animals

RESPONSE:

13-1 The 500 AUMs in the EIS, which should read 600, represent a tentative figure until our studies show the herd potential and how that potential fits with multiple use. Until studies are completed and a burro herd management area plan or cooperative agreement is completed, the allocation will remain at 600 AUMs. The proposed allocation to 100 burros was not intended to fix the herd at 100 animals. BLM intends to manage for a viable burro herd. The most recent survey shows a herd of 90 burros in the Tassi allotment. Also see response 5-1.

13-2 BLM will develop an allotment management plan with the best existing data. Once developed, this plan will undergo a benefit-cost and multiple-use review, from which a suitable grazing system will be selected. Such a system could involve deferred rotation or less-intensive grazing under lower utilization. The plan will be developed in cooperation with the burro herd management plan, providing a place for a healthy herd of burros.

13-3 The 2,292 AUMs would be consumed under 50 percent key forage utilization. Half the allotment's forage would thus be left ungrazed. This final EIS adds a sixth alternative to the proposed action--Less Intensive Management. Alternative 6 proposes 45 percent utilization, which would leave ungrazed 55 percent of the annual production of key forage species.

13-4 The computation for burros is two burros/AUM. Burros are estimated to consume 400 pounds of air dry material a month, only half the 800 air dry pounds consumed by a cow. Thus 100 x 12 = 1,200 divided by 2 = 600 AUMs. Some of the burros spend only part of the year in Arizona and then migrate to Nevada.

13-5 None of the seven additional positions is a burro specialist because the District already has such a specialist. As stated in the response to comment 13-3, alternative 6 would involve considerably fewer range improvements and be based on 45 percent utilization rather than 50 percent. Specialists would use trend and utilization studies to monitor range condition.

13-6 The number of allotments under less intensive management in table 1-1 should be 10 rather than 11.

13-7 The Arizona Strip District gets actual use information from ranchers. BLM also uses on-the-ground and aerial counts to verify numbers. If problems develop, ear tags can be used.

13-8 BLM and the National Park Service (NPS) have not developed an agreement concerning burros. A cooperative habitat management area plan, however, is being formulated this fiscal year between the Arizona Strip District BLM, NPS, and the Las Vegas District BLM.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

Robert Buffington
Arizona State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix AZ 85073

7 FEB 1980

Dear Mr. Buffington:

The Environmental Protection Agency (EPA) has received and reviewed the draft environmental impact statement (DEIS) titled SHIVWITS PROPOSED GRAZING MANAGEMENT.

The EPA's comments on the DEIS have been classified as Category LO-1. Definitions of the categories are provided on the enclosure. The classification and the date of the EPA's comments will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal Actions under Section 309 of the Clean Air Act. Our procedure is to categorize our comments on both the environmental consequences of the proposed action and the adequacy of the environmental statement.

The EPA appreciates the opportunity to comment on this draft environmental impact statement and requests three copies of the final environmental impact statement when available.

If you have any questions regarding our comments, please contact Susan Sakaki, Acting EIS Coordinator, at (415) 556-6925.

Sincerely yours,

Carl C. Kohnert Jr.

for Paul De Falco, Jr.
Regional Administrator

Attachment:

EIS CATEGORY CODES

Environmental Impact of the Action

LO--Lack of Objections

EPA has no objection to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER--Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to reassess these aspects.

EU--Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

Adequacy of the Impact Statement

Category 1--Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2--Insufficient Information

EPA believes that the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3--Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft impact statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.

Water Comments:

Under the proposed action, 85,760 acres of land are to be chained. The EIS states, on page 112, that studies show "no consistent increase or decrease in sediment yield" after chaining and reseeding. The final EIS should address the following water quality issues:

14-1 | 1) Vegetation on 51,630 acres of land in the study area has been previously modified (page 65). The erosion rates for these areas should be compared to predicted levels for land treated areas, and any differences in rates explained.

2) The design restrictions on page 29 mention criteria for land treatment by burning. Any similar design restrictions for land treatment by chaining should also be listed.

14-2 | 3) Mitigation measures should be identified to reduce water quality impacts of increased erosion on streams and water developments located near proposed land treatment areas.

RESPONSE:

14-1 Erosion rates on previously chained land in the EIS area have not been studied, and no comparison can be made.

14-2 During the first year or two before ground cover is established, any sediment produced from these areas would not significantly affect water quality because of distance to perennial streams in the area. The slight effect of this sediment on water developments would be remedied through normal maintenance.

United States Department of the Interior

HERITAGE CONSERVATION AND RECREATION SERVICE
PACIFIC SOUTHWEST REGION
SAN FRANCISCO, CALIFORNIA 94102

IN REPLY REFER TO:

PSW 200
DES 79/62

FEB 8 1980

MEMORANDUM

To: Arizona State Director, Bureau of Land Management

From: Regional Director, PSWRO

Subject: Review of draft environmental statement for the Shivwits Livestock Grazing Management Plan, Arizona (DES-79/62)

We have reviewed the subject statement and offer the following comments related to protection and preservation of cultural resources.

15-1 The draft EIS is adequate in its discussion of historic and archeological resources in relation to proposed grazing management construction activities. However, we are concerned over the potential adverse impacts to archeological resources associated with land treatments, particularly chaining and burning, and wish to point out that such activities are included under the terms of a recently signed Programmatic Memorandum of Agreement among BLM, the Advisory Council, and the National Conference of State Historic Preservation Officers. The final EIS should contain a copy of this MOA and a commitment to abide by its stipulations with regard to the conduct of further site-specific intensive surveys for "any range improvement activities which involve land disturbance.... Land disturbance includes but is not limited to such activities as construction of fencing and corrals, cattle trampling, chaining, erosion through loss of vegetative cover and controlled burning" (from Draft Programmatic Memorandum of Agreement, copy attached).

Significant cultural resources discovered during site-specific intensive surveys may require reevaluation of off-road vehicle land designations. We suggest that the Bureau of Land Management adopt, as a mitigation measure, a reevaluation schedule for off-road vehicle land designation based on completion of cultural resources surveys.

RESPONSE:

15-1 When the "Programmatic Memorandum of Agreement" goes into effect, BLM will follow its procedures. For the interim, BLM will follow existing procedures as described on page 29 of the draft EIS.

THE UNIVERSITY OF ARIZONA

TUCSON, ARIZONA 85719

OFFICE OF ARID LANDS STUDIES
845 N. PARK

TEL. (602) 626-1955
Cable Address: ARIDLANDS
TUCSON, ARIZONA

Arizona State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

Feb. 8, 1980

Dear Sir:

I have read portions of the Draft Environmental Impact Statement, Shivwits Proposed Grazing Management (Arizona Strip District) and would like to offer comments for the consideration of the Bureau and for inclusion in the "Public Comments" section of the Final EIS. My concerns are grazing land suitability, establishment and use of reference areas, pinyon-juniper treatment, and livestock adjustments.

Like several other grazing statements, such as that for Caliente Resource Area (Nevada), the Shivwits EIS mentions several tens of thousands of acres of pinyon-juniper treatment, yet with far too little documentation and justification. "A total of 85,760 acres of pinyon-juniper would be double-chained" under the proposed action and two alternatives. This is quite a lot for a practice that has been increasingly considered dubious, and the EIS says too little about it. By comparison, p-j treatment in the aggregate was considered a major enough Federal action to warrant two programmatic EIS's by the Forest Service covering a total of 110,000 and 287,100 acres in Utah and Nevada, respectively. [1] In comparison by acreage anyway, conversion plans should warrant more extended discussion or reference to a generic document on the practice that I have not read.

One problem is regarding pinyon-juniper as a monotonous subtype instead of indicating that it can be stratified by productivity, understory response to disturbance, landscape value, and so forth. As a "range type" it always tends to be regarded pejoratively ---it is almost always in "poor condition" when tree dominance is considerable. Clearly, given multiple-use mandates, the woodland has to be viewed from a number of standpoints and criteria: wildlife cover, integrity as part of a striking landscape, and forestry potential. The recent attention given to woodland forestry programs suggests that p-j can be evaluated in other ways than as range, and that its value for tree products will increase. Generally, justifying

1. Ronald M. Lanner, The eradication of pinyon-juniper woodland:has the program a legitmate purpose? Western Wildlands, Spring 1977, pp. 12-17.

woodland clearing can't be considered forestry; the wood yielded is a one-shot affair, nut-producing trees are lost, and the regrowth has a detrimental effect on the seeded plants long before the trees become large enough to harvest for wood.[2]

For woodlands, as for other resources affected by grazing management, it would be good to discuss the MFP decisions in greater detail, because an EIS is a "disclosure" document and one would like to know how decisions were arrived at. Table 1-9 is sketchy and short on rationales; for instance it would be good to know why land treatments in Class A value areas will be permitted.

16-1 The map on p. 86, showing "Proposed Intensive Wilderness Inventory Units" is good, and should be complemented by a map at the same scale showing treatments. The Caliente EIS contained a number of color maps which would be expensive to do in the Shivwits FEIS but nevertheless can be quite valuable, when compared, in showing the overlap of grazing management actions and resources. One map in the Caliente statement, for example, showed areas of "Vegetation Manipulation" with a break-down into burning, mechanical, and chemical treatments. Maps such as these, particularly when they each have the allotment boundaries, make an EIS attractive and easier to understand and comment upon.

Alternative 2, stocking by condition class, is attractive, if the reservations about land treatments are considered. The Bureau seems to be acknowledging that there would be quite an improvement from several years' deferment on the areas planned, and that such a "rest" is actually the most economically beneficial in the long run. The BLM's recently-issued document, Managing the Public Rangelands, discusses means "for mitigation of short-term negative effects" and these, if adopted, could be appropriate for an area like Shivwits where the vegetation could recover faster than under grazing treatments and the economic as well as environmental payoff is believed superior. Consonant with this, would it be a good idea to plan some land treatments to ameliorate the short-term impacts, but without the expectation of renewing the treatment when it succeeds back to shrubs or trees?

16-2 Where are reference areas located, and are they numerous enough, well enough designed, and visited and sampled regularly and consistently enough to help with evaluation and monitoring? Map 2-1 would be a good place to display exclosures and the like. I gather that there are too few study areas on the Resource Area, and that those used are read too seldom. In fact, with unusual candor, the EIS states that an exclosure on the Vermillion "provides a shred of evidence in an otherwise large void" (p. 103).

2. Robin J. Tausch and Paul T. Tueller, Plant succession following pinyon-juniper woodland chaining in eastern Nevada. J. Range Manage. 30(1), 1977. Pp. 44-49.

16-2 con't So long as grazing continues, the means should be afforded the public - including researchers, environmentalists, botanists - the chance to view and appraise ungrazed examples of public range. Such examples should not be confined to riparian areas or to "critical" places like the Paiute Primitive Area, nor to topographically protected spots that are usually atypical. Well-placed and designed exclosures are a basic kind of range improvement whose construction need take a small fraction of the fencework planned.

16-3 Concerns expressed by persons who have worked on the Arizona Strip District include lack of followup to adjust stocking rates because of the remoteness of much of the Area and too little manpower. Another is that relations between permittees and range managers are only formal, whereas stockmen could be helped to better understand AMP's, the survey methodology, and the reasons for slated reductions. A third concern - hardly unique to this Area - is the validity of the step-pace method for determining species composition and actual trend. Statistically, probably thousands of toe contacts have to be made to satisfactorily reduce the standard error of sample estimates. The problem is further compounded by the spatial variability of range vegetation in terms of production. With reference to stocking rates - and this applies to the highly averaged estimates of present usable production for the subtypes - a prominent range ecologist wrote: "What is in fact happening is that there are small acreages of land producing between 5 and 30 acres/AUM placed randomly within larger areas that produce virtually no useful or palatable forage" [3]. The vegetation changes sought seem so incremental (e.g., 14-17 % key species) that pretty rigorous "monitoring" would seem vital to insuring that they have in fact occurred.

16-4 Here, as in other EIS's, an outside reviewer can be puzzled by the range condition criteria. "Good" condition, for example, is at least 40% key or desirable species and intermediate species. By what measure - cover by percentage of toe "hits", or percent of attainable, per SCS procedure? Furthermore, the discussion of "Less Intensive Management " (p. 25) acknowledges "excellent" condition, implying that it can be found. If there is a standard for it, can the "Environmental Consequences" section specify some goals for moving some range to excellent condition over the span of the proposed action? Excellent condition range is not only a desirable end in itself; it bonfers significant advantages for range management. Again, as discussed in the paragraphs on pinyon-juniper, there should be a distinction between range that is "poor" because of overstocking

3. Paul T. Tueller, personal communication, p. 10-121, Caliente Environmental Statement Proposed .....Grazing Management Program. Final EIS, Sept., 1979.

16-4 cont | or drought or a combination (e.g. parts of grassland subtype) and that which is inherently not productive and whose reasons for being in poor condition may mean it benefits or supports other resources or lifeforms.

Presumably, the actions contemplated and described in the EIS work towards some goal or satisfactory future state of the Resource Area that can be described in both qualitative and quantitive terms (i.e. "X" thousand acres in good condition). I don't really have a sense that there is such a goal, granted that satisfactory conditions can't be achieved within the time-span of the proposed action. A correction might be specifying how much range can be placed in good or better condition at some time beyond the horizon of the proposed action, so that there is assurance that the proposed action or a preferred alternative sets the Area's rangelands on a trajectory to a wholly satisfactory state.

Although it has many detractors, I believe that the EIS process is quite valuable. It's especially so when the final Statement is used often as a "working" document by Bureau employees (who may have had rather little experience on the Area or District), cooperating agencies, and planners, and when the Final incorporates real changes suggested by commenters and not just text revisions. This draft EIS develops the alternatives in fairly equal depth, so it would seem that one of them, such as #2, could in fact be adopted if the public so desired or new information came to light.

These comments do not necessarily reflect the opinions of the Office of Arid Lands Studies nor the University of Arizona. Thank you for the opportunity to review the draft EIS, and good luck.

Sincerely,
Nicholas Van Pelt

Nicholas Van Pelt
Arid Lands Sciences
graduate program

RESPONSE:

16-1 Areas proposed for chaining and other land treatments are outlined on the Vegetation and Soil Association Map (plate 2).

16-2 The Arizona Strip District has numerous exclosures. Unfortunately, many of the old pictures and transect data were lost. Data and pictures from six exclosures in the District's two resource areas were recently found. These transects were reread in 1978 and 1979. Most had not been read since 1953. One was reread in 1960.

16-3 The concern over the lack of followup and work force is and has been a reality in intensive management. The work force must be efficiently used. Inevitably some items will be missed every year, but such omissions will be minor.

Although relations with many ranchers are formal, some informal relations exist. BLM and ranchers currently under AMPs do work together on studies, and understandings have developed. Workshops in conjunction with the University of Arizona Extension Service have been used to reach other ranchers, resulting in more understanding. BLM employees are also neighbors to many of these ranchers.

Like any other method, the step-pace method for determining species composition and actual trend is only as good as the individual running the transect. On the Arizona Strip the use of the 3 feet x 3 feet plot and pace transect to determine trend has been found to be reliable where criteria are determined consistently and the specialist running the trend has been properly trained.

Where we now have two or more readings with both plots and transects, both show similar readings in species composition shifts, ground cover, and litter shifts. The exact numbers of species will not be the same, but the magnitude and direction of the shift are similar.

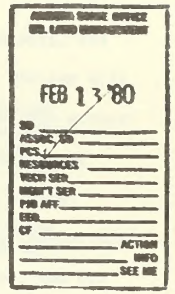
The vegetation changes referred to as incremental represent an average for the resource area. On individual allotments and for vegetation subtypes where change is expected, changes are more significant.

16-4 BLM has no criteria for the "excellent" designation but rather uses it as a qualitative statement.

BLM determined the "good" and other conditions by pace transects in key areas. From these transects, species composition was determined by the number of vegetation hits or the nearest plant species. Also used in determining condition was the soil surface factor (see glossary in draft EIS, page 228). The species composition and soil surface factor were combined for a score, which placed the condition in good, fair, or poor. See pages 189 and 190.

The separation of a poor condition caused by overgrazing or ecological processes is not a clearcut process or one without controversy. We, however, address this issue subtly in the impacts section (chapter 3), where we point out that management or grazing exclusion alone cannot change condition classes in some subtypes.

17



543 E. 600 South
St. George, Utah 84770
February 10, 1980

Arizona State Director Clair Whitlock
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

Dear Director Whitlock;

Since 1957 I have been manager on the Wildcat Allotment known as the Waring Ranch, and I hold the grazing permit on the Wolfhole Allotment known as Wolfhole Lake. Following are my comments on the Shivwits Proposed Grazing Management Resource Area Draft Environmental Impact Statement:

First, refer to Plate 1 Shivwits E. S. Area, Arizona 1979, map to allotments No. 47 which is in two separate locations. This No. 47 consists of Wildcat Ranch which contains 95,542 acres and the Home Ranch which contains 57,965 acres making a total of 153,507 acres. The Wildcat Ranch has been proposed for a cut from 6,683 AUM's to 4,569. The Home Ranch has been proposed for a cut from 2,970 AUM'e to 487. I think this is an unreasonable cut on both ranches.

17-1 Second, refer to the Shivwits Proposed Grazing Management, page 59. There ie no breakdown listed on the mule deer AUM's between Wildcat Ranch and the Home Ranch, allotments No. 47. According to the Mule Deer Habitat Legend, no deer habitat is ehown on the Home Ranch. A great deal of the mule deer deduction has been taken from the Home Ranch, but it doesn't show on this map. I figure if the cattle are to be taken off this range in order for it (the range) to come back, the deer ehould be taken off too.

17-2 Third, aleo in the Shivwits Proposed Grazing Management, pages 17 and 19, in making a comparison with No. 47 Home Ranch which contains 57,965 acres cut to 487 AUM's and No. 16 Mustang Spring Allotment which contains 9,948 acres cut to 511 AUM's, the number of cut in AUM's (cattle) is so close, and there is a difference of 48,017 acres more on the Home Ranch than on Mustang Spring. This is obviously inconsistant and unfair.

17-3 Fourth, Refer to page 17 for a comparison of wildlife at Parashaunt No. 50. Parashaunt has a total of 190,456 federal acres and the proposed wildlife is 1,372 AUM'e. Wildcat No. 47 has a total of 145,125 federal acree and the proposed wildlife ie 2,915 AUM's. Wildcat Allotment joins Parashaunt Allotment on the north and the Home Ranch Allotment joins Paraehaunt Allotment on the eouth. I don't think there is that much difference in the wildlife habitat between the Paraehaunt and Wildcat Ranches. I think 2,915 proposed wildlife for Wildcat is unreasonable.

17-4 Fifth, referring back to Plate 1 Shivwits E. S. Area, Arizona 1979, map concerning No. 14 Wolfhole Lake Allotment, it does not show Oak Spring NW¼ NE¼ Sec. 4 T. 39 N. R. 12 W. or the Rock Pond NE¼ NW¼ Sec. 2 T. 39 N. R. 12 W. There is enouch room for these to be included on the map and they should be because they are base waters for this allotment, but they aren't. Then throughout the map there is room for water catchments that do not even exist yet and they are shown on the map. This is really inconsistant.

After twenty-three years I feel I am familiar with the area, and these are my comments.

Yours very truly,

LeMoyne Esplin

RESPONSE:

17-1 Mule deer range does extend into the Home Ranch allotment, which was combined with Wildcat allotment, as shown on table 2-10 in the draft EIS. A breakdown of the forage allocation for Home Ranch and Wildcat allotments is shown in the Mule Deer Allocation Summary below.

MULE DEER ALLOCATION SUMMARY

Allotment	Summer Range Acres	Winter Range Acres	AUMs Summer Range	AUMs Winter Range	Acres/AUM Summer Range	Acres/AUM Winter Range
Parashaunt	31,744	46,874	738	625	43.0	75.0
Wildcat	21,581	55,731	502	743	43.0	75.0
Home Ranch	52,017	6,389	1,210	85	43.0	75.0
Totals	105,342	108,994	2,450	1,453	-	-

17-2 Proposed grazing capacities have been determined by vegetation inventories, which are based on production. Acreage will play a role, but in areas of low production even high acreages will yield low carrying capacities.

17-3 BLM and the Arizona Game and Fish Department agreed upon a reasonable wildlife forage allocation in August 1975. The allocation was based on present and potential big-game use according to area, season of use, and elevation. In the Parashaunt Habitat Area, ranges above 6,000 feet (summer range) were allocated 43 acres/AUM and ranges below 6,000 feet (winter range) were allocated 75 acres/AUM.

The mule deer allocation summary shows that all three allotments received the same rate of forage allocation based on the amount of deer habitat above and below 6,000 feet. Allotments such as Home Ranch with extensive habitat above 6,000 feet require a greater reservation of forage for mule deer than do allotments with less summer range and more winter range. The proposed mule deer allocation for Wildcat allotment is 1,245 AUMs and for Home Ranch allotment 1,295 AUMs. Since publication of the draft EIS the production and allocation figures have been revised.

17-4 Some improvements have been omitted from the maps to reduce clutter and confusion. Most improvements if not all, however, are a matter of record. The catchments you refer to may be wildlife catchments, but to our knowledge all improvements on the map do exist.

18

THE DESERT TORTOISE COUNCIL

350 Golden Shore
Long Beach, California 90802

RECEIVED
FEB 11 '80

February 8, 1980

Mr. Bill Templeton
District Manager
Bureau of Land Management
Arizona Strip District
P.O. Box 250
St. George, Utah 84770

Dear Mr. Templeton:

Following are our comments on the Shivwits E.S. in relation to the desert tortoise:

The impacts of the prescribed grazing management on the desert tortoise will vary substantially according to which alternative or combination of alternatives is finally adopted.

18-1 1. It appears the MFP 1 recommendation was significantly altered in MFP 2 recommendation. Why did this happen?

18-2 2. Maintaining a 50% level of utilization on plant species consumed by both livestock and tortoises will not improve the habitat as you predict. Studies by Clark Martin at the Santa Rieta Experimental Station in Arizona have shown that utilization levels should be no higher than 40% to really improve the range.

18-3 3. One of the assumptions listed on page 95 indicates the use of ephemeral vegetation will be held to 50% under the proposed action and alternatives 2 and 3, but will exceed 50% under alternatives 1 and 4. The desert tortoise extensively uses ephemeral vegetation to maintain its body functions and support reproduction. A 50% level of utilization on these ephemeral plants will eliminate the most accessible plants for the desert tortoise. The tortoise grazes by walking along selecting a bite here and there from the edge of the plants. That is also the likely areas for the cattle to first remove the vegetation.

History has shown that the Bureau of Land Management authorized ephemeral use prior to the forage being produced on the ground. "Betting on the Come" and allowing the rancher to put his livestock on the range shortly after the first rains does not protect or save any forage for the desert tortoise.

18-4 4. The forage consumption of desert tortoises is insignificant when compared to livestock; therefore, this is not a viable management option.

18-5 5. Fencing the washes will not meet the desert tortoise needs on the Arizona Slope. The distribution of tortoises is not necessarily keyed to washes. Washes do provide potential denning sites and in some instances are more productive forage-wise than the uplands; however, as indicated in a recent report (Hohman, 1979) on the Arizona Slope Population, tortoises use about 50% upland sites for denning purposes. Pallets (shallow burrows) were found almost exclusively on upland sites and are used as shelters during the early and late activity periods when temperatures are mild. Ephemeral burrows (upland sites) were more numerous than permanent dens (wash sites) according to Hohman. The fencing of washes will not meet the forage needs of tortoises on the adjacent uplands; therefore, this is not considered to be a viable management alternative.

Another question which must be answered is what is considered high tortoise concentrations? In some instances a population of 10/sq. mile could be considered high for current habitat conditions, yet a population of 50/sq. mile might be low under poor habitat conditions. Burge (1978) showed that the estimated desert tortoise populations on the Arizona Strip were less than 50/sq. mile. Berry and Nicholson (1979) showed that populations lower than 100/sq. mile may be too low to reproduce. Is it the District's objective to maintain current population levels or expand the population to ensure its viability?

18-6 6. Providing adequate spring rest is the most important management option addressed in this section. Actually, the rest period should include summer and fall. Based on Hohman's findings on the Arizona Slope and studies in California and Nevada, forage competition is greatest during these three seasons, especially in spring. Grazing systems should be adjusted to eliminate spring, summer and fall use in pastures where tortoises are present. This would also exclude any ephemeral licensing in these pastures. The same problem will arise as in number 5; what criteria will be used to determine high concentration areas?

18-7 7. The spacing of livestock waters a mile from tortoise areas is not a realistic management alternative. Desert tortoise home range data shows it is not uncommon for tortoises to move a mile or more. A radioed tortoise on the Arizona Slope moved up to 4½ miles (Hohman, 1979). In addition, delineating tortoise concentration areas may be difficult if the habitat in a particular pasture is fairly homogenous.

The sacrifice areas created around livestock waters impact a significant amount of habitat as alluded to on page 143. In many cases, greater than 50% utilization would occur ½ to 3/4 of a mile from the water source, which will increase competition between tortoises and livestock with a 1 mile spacing.

18-8 8. Approximately 37,676 acres of tortoise habitat will be under less intensive management. The Pakoon and unallotted allotment contain substantial tortoise habitat and according to Burge (1978) possess tortoise densities from 3 to 20/sq. mile. No indication is made of how these populations' habitat will be protected or managed. This area needs to be protected from livestock grazing in the spring.

18-9 9. The assumption on page 119 states, "allotments with important tortoise denning areas will be grazed only in the winter, November through February." Which allotments within tortoise habitat are to be fenced?

10. Mud and Cane Springs and Cottonwood allotments under Alternative 1 (Full Stocking) would receive utilization of 75%, which would severely impact tortoise habitat. High utilization of forbs and grasses would increase the competition between livestock and tortoises for food, as previously discussed.

11. The extent in which the stocking by condition class (Alternative 2) would benefit tortoises is unknown.

The five year deferment plus reduced stocking levels on other allotments would undoubtedly improve habitat conditions. With such a long-lived species, the overall benefit to localized tortoise populations over the long run is minimal. However, we strongly suggest this alternative be implemented. It is the only alternative which will quickly improve range conditions.

12. In the no action alternative approximately 190,000 acres of tortoise habitat would as in the past receive heavy livestock use. Greater than 50% use, non AMP allotments, of perennial and ephemeral vegetation would occur. Under this alternative, competition will be greatest between tortoises and livestock. This alternative should not be implemented.

59

Sincerely,

JAMES A. ST. AMANT

cc: Tom Allan

RESPONSE:

18-1 Multiple-use considerations dictated that intensive livestock management be compatible with high-density tortoise habitat rather than the entire range of the tortoise.

18-2 The 40 percent utilization in studies at the Santa Rita Experiment Station were related to season-long grazing. Maintaining 50 percent utilization on both ephemeral and perennial vegetation is expected to improve tortoise habitat. Deferred or rotation systems will be applied to important tortoise areas.

18-3 Alternatives 1 and 4 are not viable. High-density tortoise areas will be deferred during the critical spring period. Current research does not show that proper livestock grazing (50 percent utilization) is detrimental to tortoise forage. BLM licenses the use of ephemeral forage only during years of abundant annual vegetation. Licensing will respect tortoise needs in important habitat.

18-4 We agree.

18-5 The fencing of washes is not the only management alternative. In some instances a combination of management options could be applied. For example, fencing a portion of a pasture or deferring spring use could help mitigate the conflict between tortoises and livestock. Each allotment within tortoise habitat will be dealt with individually.

We must try to expand tortoise populations in the district. The restriction of other uses, however, must be supported with sound research data. The District is committed to maintain and improve the habitat of tortoises. Areas with high concentrations (greater than 50 tortoises/square mile) will receive special emphasis through

intensified management. Before we can institute stringent guidelines to upgrade tortoise habitat, we must know the degree of tortoise-livestock forage competition.

18-6 Tortoise habitats with concentrations greater than 50 tortoises/square mile will be considered when developing a grazing system. Grazing of tortoise concentration areas will be deferred during critical periods, unless experimental grazing of certain high concentration areas is desired.

18-7 Spacing of livestock waters in most instances can be adjusted in AMPs to avoid direct forage conflicts with tortoises. Another alternative would be to defer grazing of important areas next to livestock waters.

18-8 Preliminary data on tortoise distribution indicate that densities are low on these less intensively managed allotments. Lower utilization should improve tortoise habitat.

18-9 So far, the following allotments contain tortoise densities greater than 50 tortoises/square mile.

Beaver Dam Slope

Mesquite Community

Littlefield Community

Tassi Blackwillow

These allotments will be intensively surveyed before AMPs are developed and desert tortoise management options are evaluated.

Related to 79-60-0012 SIGNOFF 19 May 01

OMB Approval No. 29—R0218

FEDERAL ASSISTANCE

2. Applicant's application — a. Number: — b. Date 19 (Year Month Day):

3. State application identifier — a. Number: AZ 79-80-0077 — b. Date Assigned (Year month day): 19 79 12 28

1. Type Of Action (Mark appropriate box): ☐ Preapplication ☐ Application ☐ Notification Of Intent (Opt.) ☐ Report Of Federal Action

Leave Blank: FEB 08 1980 JoAnn Youngblood

Section I - Applicant / Recipient Data

4. Legal Applicant/Recipient
- a. Applicant Name: Bureau of Land Management
- b. Organization Unit: Arizona State Office
- c. Street/P.O. Box: 2400 Valley Bank Center
- d. City: Phoenix — e. County: Maricopa
- f. State: Arizona — g. Zip Code: 85073
- h. Contact Person (Name & telephone no.): Bill Carter (602) 261-4127

5. Federal Employer Identification No.:

6. Program (From Federal Catalog) — a. Number: 15.999 — b. Title: Unknown

Department of the Interior, Bureau of Land Management

7. Title and description of applicant's project: SHIVWITS PROPOSED GRAZING MANAGEMENT - DRAFT ENVIRONMENTAL IMPACT STATEMENT

Implement livestock grazing management on approximately 1,717,000 A. of public land in NW AZ. Intensive grazing management is proposed for 40 allotments and less intensive management on 10 allotments. EIS analyzes environmental, social, & economic impacts of management changes and building of associated range improvements.

8. Type of applicant/recipient: A—State; B—Interstate; C—Substate District; D—County; E—City; F—School District; G—Special Purpose District; H—Community Action Agency; I—Higher Educational Institution; J—Indian Tribe; K—Other
(Specify): Federal Agency — Enter appropriate letter: K

9. Type of assistance: A—Basic Grant; B—Supplemental Grant; C—Loan; O—Insurance; E—Other — Enter appropriate letter(s): E

10. Area of project impact (Names of cities, counties, states, etc.): Northern Mohave County, Arizona

11. Estimated number of persons benefiting:

12. Type of application: A—New; B—Renewal; C—Revision; O—Continuation; E—Augmentation — Enter appropriate letter: A

13. Proposed Funding

a. Federal	$	.00
b. Applicant		.00
c. State		.00
d. Local		.00
e. Other	1	.00
f. Total	$ 1	.00

14. Congressional Districts Of: a. Applicant: — b. Project: 03

15. Type of change (For 12c or 12e): A—Increase Dollars; B—Decrease Dollars; C—Increase Duration; D—Decrease Duration; E—Cancellation; F—Other (Specify:) — Enter appropriate letter(s):

16. Project Start Date (Year month day): 19

17. Project Duration (Months):

18. Estimated date to be submitted to federal agency (Year month date): 19

19. Existing federal identification number:

20. Federal agency to receive request (Name, city, state, zip code):

21. Remarks added: ☐ Yes ☒ No

Section II - Certification

22. The Applicant Certifies That

a. To the best of my knowledge and belief, data in this preapplication/application are true and correct, the document has been duly authorized by the governing body of the applicant and the applicant will comply with the attached assurances if the assistance is approved.

b. If required by OMB Circular A-95 this application was submitted, pursuant to instructions therein, to appropriate clearinghouses and all responses are attached:

	No response	Response attached
(1) Arizona State Clearinghouse	☐	☐
(2) Region IV Clearinghouse (DISTRICT IV COG)	☐	☐
(3)	☐	☐

23. Certifying representative — a. Typed name and title: — b. Signature: — c. Date signed (Year month day): 19

Section III - Federal Agency Action

24. Agency name:

25. Application received (Year month day): 19

26. Organizational Unit:

27. Administrative office:

28. Federal application identification:

29. Address:

30. Federal grant identification:

31. Action taken: ☐ a. Awarded ☐ b. Rejected ☐ c. Returned for amendment ☐ d. Deferred ☐ e. Withdrawn

32. Funding

a. Federal	$ .00
b. Applicant	.00
c. State	.00
d. Local	.00
e. Other	.00
f. Total	$ .00

33. Action date (Year month day): 19

34. Starting date (Year month day): 19

35. Contact for additional information (Name and telephone number):

36. Ending date (Year month day): 19

37. Remarks added: ☐ Yes ☐ No

38. Federal agency A—95 action

a. In taking above action, any comments received from clearinghouses were considered. If agency response is due under provisions of Part 1, OMB Circular A-95, it has been or is being made.

b. Federal Agency A-95 Officiel (Name and telephone number):

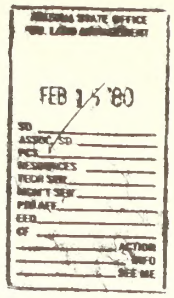
424-101

Standard Form 424 Page 1 (10-75)
Prescribed by GSA, Federal Management Circular 74-7

20

SIERRA CLUB

Grand Canyon Chapter · Arizona
3737 N. Country Club 218S Tucson 85716



February 12, 1980

Mr. Claire Whitlock, Director
Arizona State Office
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

Reference: Shivwits Proposed Grazing Management
Draft Environmental Impact Statement

Dear Mr. Whitlock,

The Sierra Club believes the Environmental Statement is an important tool in the land management process and supports the Bureau's program to complete Statements on grazing management. For this reason we offer these comments on the document referred to above.

61

20-1 Proposed Action, Page 9, Paragraph 1

It would greatly increase the comprehensibility of the document if, rather than only making reference to the Grand Wash Management Framework Plan, the rationale behind choice of the proposed action was clearly stated at this point. This should include an explanation of why, based on the particular characteristics of the Arizona Strip, the condition of the range, and the considerations of other resource values, this plan of action has been proposed.

Design Restrictions, Page 29

These design restriction are clearly presented and vitally important.

Range Improvements, Page 27, Text and Table 1-6

20-2 The document does not outline cost estimates for maintenance of the proposed range improvements.

20-3 The document offers no examination of the cost/benefit ratio of these proposed improvements. It is critical in our opinion that a proposed $5.6 million expenditure be fully justified by documented anticipated returns. Are these improvements to be constructed with no regard to cost effectiveness?

20-4 If for some reason the required funds for range improvements did not materialize, what contingency plan would the BLM adopt to achieve its goals?

Economic Considerations

20-5 The document refers several times to the plan for BLM to pay "increased percentages for total costs for construction projects." (p. 170) How much of the proposed $5.6 million expenditure for range improvements will be born by the BLM and thus by the taxpayer? The sections on Economic Conditions do not address this but should. Discussion of economic impacts should include effect on and benefits to the taxpayer with regard to this proposed expenditure.

Alternatives to the Proposed Action

20-6 The array of alternatives includes no realistic choice which does not rely heavily upon construction of water developments. We feel a full spectrum of alternatives should include one which does not involve emphasis on costly water developments, nor vegetative manipulation, and which calls for stocking based on range condition and trends. We feel such an alternative should be included in the Final Environmental Statement, and implemented on the Arizona Strip.

Range Condition

1. 20-7 The document gives figures to indicate what acreages will fall into each condition category at the end of the fifteen year period. Given that the ultimate goal of any range management program would hopefully be restoration of all allotments to good to excellent condition, what is necessary and how long will it take under the various alternatives to achieve a good to excellent condition throughout the area? (assuming that each was carried forward indefinitely) Answers to this question would help the reader to put the alternatives and the situation in perspective.

2. Table 1-8, page 34

20-8 What is the basis for stating that "Alternative 5, Elimination of Grazing" will result in the same acreages being in good, fair and poor condition as Alternative 3?

Wildlife

1. 20-9 The document points out, "The Shivwits EIS area is one of the most diverse biotic areas in Arizona.." (p. 57) The proposed action does little to maximize this diversity. We believe the management of the area should give far more attention to the needs of wildlife.

2. 20-10 It appears that forage has been allocated only to big game species and to the desert tortoise (pp. 118 & 189). Is there to be no forage allocation for any other form of nongame wildlife? Why?

3. The mitigating measures on page 170 are all very important. It would make the document much more understandable if each of these were included as part of the proposed action, under the appropriate headings, in Chapter 3.

4. 20-11 What is the timetable for the wildlife studies referred to in the document? How will these wildlife studies and the Habitat Management Plans (described in Grand Wash Management Framework Plan) be coordinated to ensure that the results can be successfully integrated into implementation and monitoring of the Allotment Management Plans?

5. 20-12 The document points out that riparian areas are the "most productive communities in the EIS area." We endorse plans for careful study of these areas and removal of livestock in problem areas. When will data be available and how (over what time frame) will it be integrated into the Allotment Management Plans?

6. 20-13 How were the figures in Table 1-8 derived? Those for mule deer and desert bighorn sheep in particular don't seem to total up.

7. 20-14 We are concerned about the effects of large numbers of water developments on wildlife. Often the addition of livestock waters serves to expand the area impacted by livestock, thus adversely affecting wildlife. (An example is pointed out on page 60, column 2, paragraph 4.) We cannot agree with the conclusion reached in Table 3-7, page 126, Bighorn Sheep-Range Improvements, which states that six water developments could have a moderately beneficial effect on bighorns by increasing their use of the area.

8. 20-15 The document explains the lack of sufficient data on the habitat and status of the desert tortoise, the high mortality rate which may be taking place on the Beaver Dam Slope in Arizona, and the precarious state of the Beaver Dam Slope population in Utah. The document does not weigh the proposed high adverse impacts to over 60,000 acres of desert tortoise habitat against the anticipated benefit to be derived from use of this acreage for deferred grazing systems and less intensive management (p. 136). We question whether this damage can be justified.

Primitive Values

1. The Arizona Strip is one of the wildest reaches of the United States. We believe it should be managed to preserve and enhance its unique primitive values.

2. 20-16 Because the BLM's wilderness inventory process is now underway, it would be very helpful to have a map of the tentatively proposed range improvements which would be overlayed upon or easily referenced to a map of the same scale of potential wilderness study areas. We request that the Final Environmental Statement include such material.

3. 20-17 Table 3-15 on page 159 is unnecessary and confusing and should be eliminated from the Final Environmental Statement. Either water developments are proposed for the Pauite Primitive Area or they are not. If they are not, as page 170, Mitigating Measures, indicates, then this should be clearly stated under the proposed action.

Thank you very much for considering these comments.

Sincerely,

Linda Lewis

(Mrs.) Linda Lewis
Conservation Chairman

cc: Sierra Club
The Wilderness Society
Mr. Frank Gregg

RESPONSE:

20-1 See response to comment 21-1.

20-2 BLM has no total cost estimate for maintenance of range improvements. Most range improvements on public lands in the Arizona Strip are maintained by livestock operators through cooperative agreements. We would expect this situation to continue.

20-3 Before implementing the proposed action or any alternatives, BLM would subject every allotment to a benefit-cost analysis. The selected action must and will be cost effective.

20-4 Should funds for proposed range improvements not materialize, BLM would continue adjusting grazing use. If intensive grazing management is selected, grazing systems would be implemented on allotments with sufficient existing improvements to accommodate the system. The remaining allotments would be handled on a case-by-case basis. Some might require changes in season of use to protect the range. Others would continue with their present operation under a specified carrying capacity.

20-5 A further analysis of this mitigating measure resulted in its being removed from consideration as inappropriate. These cost estimates are approximate, and cost allocations are not known.

For a discussion of the benefits to taxpayers of BLM expenditures, see pages 163-168 of the draft EIS. Increased available livestock forage will increase beef production and recreation opportunities and benefit taxpayers.

20-6 See Arizona Strip District Manager's Statement.

20-7 See page 96, column 2 and pages 104-109 for discussions of each vegetation subtype and its chance for condition improvement. Several subtypes listed on page 96 would not improve in condition class unless some impact agent (fire, disease, climate change, land treatment) opens brush or tree canopy to diversify vegetation and allow forage and browse to increase. BLM's goal is to improve management to change those vegetation subtypes to a good condition or to the best condition the subtype's potential will allow.

No alternative would allow all subtypes to achieve good to excellent condition because natural causes prevent many types from improving. Cliffs, for example, will always be sites of heavy erosion and poor soil and thus have poor conditions. The pinyon-juniper subtype provides another example of natural limitations. This subtype is in a climax state--the highest ecological successional state--but it has a poor forage condition. The tree dominance lets little forage grow beneath the canopy.

Our evaluation is based on soil conditions and the diversity of livestock forage.

20-8 Refer to Chapter 3, Vegetation, especially pages 102 to 104.

20-9 How much wildlife habitat would improve under the proposed action is not known. Intensive grazing systems, lower utilization, and proper seasons of use should upgrade food and cover for most wildlife. Even under alternative 5 (Elimination of Grazing) species diversity would not reach a maximum for subclimax species.

20-10 Forage allocation for nongame presents two major problems. First, adequate information on population size, population condition and trend, and resident and seasonal habitat requirements do not exist, especially on an area-specific basis. Second, the forage consumption rates of many nongame species are also unknown.

A better solution than trying to establish forage allocations for extremely cyclic nongame populations is proper livestock grazing. Wiens' (1973) studies of grassland nongame bird populations indicate that light-to-moderate livestock grazing does not significantly alter avian communities.

20-11 The main thrust of EIS wildlife studies will be an exclosure evaluation system. Exclosures of 50 to 100 acres will be established in all major vegetation subtypes. Specific AMPs will be evaluated and compared to ungrazed areas (exclosures). These studies will identify livestock-wildlife conflicts and allow appropriate recommendations to be made to correct the deficiency. The information generated will then be used to improve the data base and prepare habitat management plans (HMPs) and other planning documents.

The other studies listed on page 170 can only be initiated as BLM obtains funding. During fiscal year 1980-81 BLM plans to develop an HMP for the bighorn sheep habitat area. Upon completion of the HMP, we will make recommendations to correct conflicts.

20-12 The wildlife staff will inventory AMPs either during HMP development or as AMPs are implemented. Significant deteriorated spring and riparian habitats will be fenced in each allotment. Inventories would involve detailed habitat descriptions of each spring.

20-13 In projecting impacts on wildlife habitat, wildlife specialists calculated the acreage constituting the habitat of different species. They then determined whether the habitat of a species or group of species would be impacted by comparing projected vegetation condition and trend to grazing system utilization and season of use. Each alternative has different acreage figures because of the differences in impacts associated with the different alternatives.

20-14 The area in reference has no bighorn sheep use because of lack of water. This area is considered potential bighorn habitat and would be analyzed (page 170) according to bighorn requirements. After thorough analysis and the development of a habitat management plan, if a water placement is likely to create a conflict, steps would be taken to resolve conflicts before sheep are introduced into the area.

Although new livestock waters will subject some new areas to higher utilization, we also expect heavily impacted areas to improve with proper livestock management.

20-15 On the Beaver Dam Slope in Arizona the higher density tortoise area (more than 50 tortoises/square mile) will be deferred from spring and early summer livestock use.

BLM-funded research does not show a clear cause-and-effect relationship between tortoise decline and livestock grazing. Our vegetation studies show an improvement in range condition. We do not know what habitat improvement is needed to reverse tortoise decline or whether livestock grazing is the sole cause for this decline. Therefore our strategy is to defer spring-summer use in high-density tortoise areas to maintain viable tortoise populations on these better areas. Once we have better data to refute or substantiate the effect of livestock, we can take steps to alleviate the problem. Moreover, current research does not show that winter-fall grazing is detrimental to tortoises at proper stocking levels.

20-16 See Arizona Strip District Manager's Statement concerning proposed range improvements.

20-17 The EIS process identifies impacts first and then identifies reasonable mitigation not included in the proposed action or alternatives. BLM, like any other proponent of an action, may or may not include all mitigation in the proposal. Often additional mitigation is later identified as suggested by the EIS format.

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February 13, 1980

State Director
Arizona State Office
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

RE: DRAFT EIS ON THE PROPOSED GRAZING MANAGEMENT PROGRAM FOR THE SHIVWITS RESOURCE AREA

Dear Sir:

I have briefly reviewed the above captioned environmental impact statement (EIS) and wish to submit the following comments on its contents on behalf of the Natural Resources Defense Council, Inc. (NRDC).

As you may already know, NRDC, a non-profit, environmental membership organization, has long been concerned about the management and current conditions of the publicly owned rangelands in Arizona and other western states. We support the efforts of the Bureau of Land Management (BLM) to manage livestock grazing on these lands according to the multiple-use and stewardship principles mandated by the Federal Land Policy and Management Act (FLMPA) as well as to comply with the requirements of the National Environmental Policy Act (NEPA) in so doing. Indeed, we believe that adequate range EIS's are the key means by which the management actions necessary to comply with FLMPA's mandates can be identified and their implementation supported.

The instant draft EIS reveals that a number of serious resource management problems exist in the Shivwits resource area. These include, for example, the lack of any forage allocations for wildlife as well as to meet basic ecosystem needs, continuous grazing and too early spring grazing, and conflicts between livestock grazing and riparian, recreational and archeological resources. See, e.g., Table 1-3, pp. 17-19; p. 97; p. 73.1/ The draft also reveals that, as the

1/All page references are to the draft EIS.

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results of these and other problems, the publicly owned resources of the area have been, and are being, adversely impacted. Finally, the statement reveals the need for prompt changes in existing management practices, including reductions in current livestock numbers, in order to remedy these problems and improve current resource conditions.

The draft EIS evidences a sincere intention to improve the management of livestock grazing in the Shivwits area as well as to comply with the regulations promulgated by the Council on Environmental Quality (CEQ) regarding the format of EIS's. It is not only brief, but also well-written -- and by someone with a sense of humor. Unlike many other range statements, the socio-economic analysis of this EIS addresses the non-livestock values of the lands involved, as well as the impacts of the proposed actions and alternatives on livestock operators. Similarly, it makes good use of information derived from Allotment Management Plans (AMP's) which have already been implemented in the Area. In addition, unlike virtually all other such statements, it acknowledges that water development does not always benefit wildlife. Finally, it is likely that several of the discrete actions proposed by the Bureau for this Area, including forage allocations for wildlife needs and "resource conservation" as well as reductions in livstock use, will have beneficial results. Nonetheless, the draft suffers from several of the same problems that characterized other earlier statements. In particular, its treatment of the Management Framework Plan (MFP) for the area is seriously deficient and the alternatives it considers have been improperly selected. In addition, it fails to provide an adequate description of, and rationale for, the proposed action. 21-1

According to the draft, the proposed action is based on, and designed to fulfill, the management objectives and constraints of the Grand Wash MFP. See, e.g., pp. 36, 3.2/ Given this relationship, it is indisputable that the EIS must explain how these MFP recommendations were derived. To be adequate, such an explanation requires: 1) an adequate description of the MFP recommendations; 2) a description and the reasons underlying the basic land allocations and trade-offs which they represent; and 3) an analysis of those reasons and the adequacy of the proposed recommendations.

2/The references to the MFP contained in the text of Chapter 1 suggest that it has been completed. However, Table 1-9, p. 37 suggests the contrary, as does a subsequent reference to the "draft" MFP. (P. 80). The status of this key document should be clarified in the final statement.

21-1 con't The draft summarizes certain MFP recommendations as well as the "resource trade-offs" that had been made. (Table 1-9, p. 37)3/ However, it provides none of the underlying reasons for the trade-offs that have been made and few of the reasons for the recommendations themselves. For example, the draft totally fails to explain why the Bureau has decided to implement intensive management of livestock grazing on the overwhelming majority of the lands in this area.4/ Similarly, it does not explain why the recommendations to exclude grazing on two outstanding recreational resources, the Virgin River Gorge Recreation Lands and Paiute Primitive Area, were rejected, or why livestock will be permitted to utilize desert tortoise habitat during the spring.

In addition, it is clear that the draft does not provide all of the necessary and relevant information about the MFP. Neither the table nor the text identify any watershed or wildlife objectives for the Area, any area-wide constraints on grazing or associated "range improvements" necessary to protect riparian ecosystems or to meet wildlife needs (except the tortoise), or any "management goals," p. 21 -- except for livestock. In the absence of these and other recommendations as well as an analysis of their rationales and the degree to which they will serve as an adequate basis for future management, readers can neither fully understand nor evaluate the fundamental management decision with which this EIS deals, i.e., the decision to allocate the lands involved to livestock use.

21-2 The draft's treatment of "unsuitable lands" also illustrates its failure to deal with this fundamental management decision. The statement reveals that 208,754 acres have been deemed unsuitable for grazing. (P. 48).5/ However, the

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21-1 3/ The draft also lists the criteria established by the MFP for "preparation of specific grazing management proposals." (P. 21). It states that the MFP "strongly encourages compliance" with these criteria. (P. 21) What does this mean? Can some or all of the criteria be ignored? If so, under what conditions? Are these conditions embodied in the MFP? If not, why not?

21-1 4/Such an explanation is especially necessary in light of the fact that the Area involved constitutes a "major semi-private open space recreation resource," as well as its climate, the ecology of the lands involved, and the relative lack of success of the intensive systems which have already been implemented. See pp. 83; 97; 102; Table 32, p. 101.

21-2 5/According to the Appendix, only 43,521 acres have been deemed unsuitable. (P. 156). The final EIS should explain this discrepancy.

21-2 con't location of these lands is not supplied. Nor are the criteria for their selection clearly identified. Nor is it clear whether the unsuitability criteria has been used only for purposes of allocating forage, or whether livestock will actually be removed from some or all of these lands. (Cf., e.g., pp. 37 and 48). In any event, even assuming that all lands within the Area that are "unsuitable" for livestock use because of topographic and other features have been properly identified, this does not mean that livestock should necessarily be the primary management target for all of the remaining lands or that the soils, in particular, of these other lands are capable of sustaining livestock use.6/ Unfortunately, however, the draft never addresses this issue.

21-3 As indicated, we believe the alternatives considered in the draft impact statement have been improperly selected. While they do encompass various levels of livestock use, unlike many early statements, they clearly reveal a predetermined intention to implement intensive management and only intensive management on the vast majority of lands in the Shivwits Resource Area. Thus, no one expects the Bureau to discontinue livestock grazing totally in this or any EIS area.7/ Similarly, no one would want -- or expect -- the Bureau to permit the continued abuse of publicly owned resources that is resulting from current management practices. Each of the remaining three so-called "alternatives" involves an intensive management scheme that is identical to the proposed action. See, p. 3. They are clearly not alternatives to the proposed action. Instead, they are simply variations on it. NEPA, however, requires the consideration of genuine alternatives, not variations. At a minimum, therefore, the final statement must consider a non-intensive management alternative. Either this alternative or an additional one might well incorporate some of

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6/The draft reveals that a limited amount of soils information is available for the Resource Area. (P. 51.) Although it states that this information is "useful for general planning," id., it does not make clear how the information was used in planning, except in reference to proposed vegetation manipulation projects, and then only in the most general terms. Equally importantly, the draft neither explains why more detailed soils information is not available for this Area when it was available in others, nor indicates when it will become avaiable. See, e.g., CEQ Regulations Sec. 1502.22.

7/The principal reason for analyzing the no grazing alternative is to provide baseline environmental information against which to measure the impacts of all the other alternatives, including the proposed action.

21-3 cont | the rejected MFP recommendations referred to in Table 1-3 as well as comprehensive protection of the critically important riparian ecosystems in the Area.

21-4 | Finally, as indicated, the final statement should include a clearer description of certain elements of the proposed action as well as the rationales for them. These elements are the allocation of "resource conservation AUM's," protection of riparian ecosystems, and the proposed extensive vegetation manipulation projects and water developments as well as the proposal to implement intensive grazing management.8/

The proposed action would allocate AUM's for "resource conservation" for the first time in this Area. (Table 1-3, pp. 17-19.) As indicated, we do not doubt that this will have beneficial rsults. Nor do we dispute the Bureau's responsibility to make such allocations. However, the draft does not clearly explain how the AUM's for this purpose were derived. Similarly, it makes no attempt to analyze the adequacy of the proposed allocation. Absent such information, readers cannot determine whether the announced twin objectives of these allocations -- vegetation maintenance and watershed protection -- will be achieved. (P. 15, Note 3.)

21-5 | The proposed action also contemplated the fencing of "riparian areas determined to need protection . . ." (P. 69.) These areas are "the most productive communities within the EIS

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8/In addition to the concerns already raised with respect to the implementation of intensive management, we are also concerned about the "normal flexibility" which will be included in these systems as well as the Bureau's ability to enforce the recommended utilization limits. It is clear that excessive utilization will prevent realization of the "benefits" which are predicted to result from implementation of the proposed systems. See, pp. 97, 102. Similarly, it is clear that, unless the proposed seasons of use and/or phenological requirements of key plant species are met, there is little if any reason to implement the proposed system. See, pp. 21-24. The draft explicitly assumes that the manpower necessary to achieve the needed utilization control will be available. We submit that the Bureau, which has always suffered from a lack of adequate personnel, simply cannot make this assumption, particularly in connection with such a key element in its proposals. Simi- larly, the statement describes "normal flexibility" and asserts that it has been taken into account in setting initial stocking rates. (P. 32.) It does not explain how flexible movement dates can be accounted for in this process, however. Moreover, it ignores the environmental impacts that too early spring grazing, in particular, can have.

21-5 cont | area" as well as "the most valuable wildlife habitat[s] . . . (P. 71.) There is no question but that livestock grazing generally has had adverse impacts on these ecosystems in the Shivwits Area, See, e.g., p. 73, as well as that remedial actions are urgently necessary to maintain, restore and protect them. However, the draft establishes only one criterion, i.e., "significance", which will be used to identify the areas which will be protected and supplies no definition of that term. Moreover, it identifies only one specific area, the Paiute Primitive Area, in which any of these ecosystems will, in fact, be protected, although neither the number nor the location of these ecosystems is supplied. The draft identifies only one other specific area, the Virgin River, in which studies will actually be carried out to determine the impact of grazing on the riparian zone, p. 37, although it indicates that other, unidentified areas will also be studied. (See, e.g., p. 170.) We submit that this ambiguous treatment of these critical areas is inadequate. In addition, we believe that it is no longer acceptable to delay the implementation of remedial actions to improve deteriorated riparian habitats because of the need for further "studies."

21-6 | The proposed action also recommends great reliance on expensive pinyon-juniper chaining as well as water developments. The EIS, however, does not identify the specific areas on which the chainings will take place or provide any information about them. Nor does it provide the criteria used for their identification. Although the draft asserts that the purpose of these chainings is to "balance carrying capacities among pastures", p. 26, it makes no attempt to demonstrate the need for these projects. Similarly, although the draft states that certain species will be seeded in treated areas, it provides no information about the success of such seedings, if any, already undertaken in the area. Although the environmental analysis states that these treatments will be "designed to enhance . . . . and maintain" certain wildlife species, p. 119, the draft provides no design criteria. It assumes, without analysis, that certain species will be benefited by these projects, Id., but fails to consider relevant applicable research indicating that the benefits of such treatments for deer as well as for vegetative improvement and watershed protection are questionable. See, Tausch, R.J. and Tueller, P.T., "Plant Succession Following Pinyon-Juniper Woodland Chaining in Eastern Nevada," Journal of Range Management, Vol. 30, N. 1, pp. 44-47 (1977).

The draft's treatment of water development is similarly deficient. As indicated above, the document acknowledges the adverse impacts such development can have for wildlife. Unfortunately, however, it makes no attempt to relate the proposed developments to wildlife habitat areas or to supply any criteria which will be used to ensure that critical areas are protected in the selection of project locations.

Thank you in advance for your consideration of these comments. Hopefully, they will assist you and your staff in preparing a final EIS which will be of optimum assistance in the selection and implementation of environmentally responsible management practices for the Shivwits area.

Sincerely,

Johanna H. Wald

JHW/kj

RESPONSE:

21-1 The Grand Wash MFP has been completed through Step 2, multiple-use recommendations. The final EIS must be filed before Step 3 decisions can be made. Although this EIS is based on specific recommendations from the Grand Wash MFP, the recommendations are not final decisions and are subject to change based on the final EIS, information from the public, and BLM guidance. Specialists formulated MFP recommendations, identifying the needs and uses of their resources. They then identified conflicts between various resources and their uses and made compromises to accommodate multiple-use management.

To develop the livestock forage recommendations on which the EIS is based, resource specialists drew up requirements for livestock grazing under various conditions. These requirements, for example, restrict average forage utilization to 50 percent and obligate operators to rest each pasture of allotments grazed yearlong for a full year during each grazing cycle. In addition, requirements restrict spring grazing for no more than 1 year in 3 on any given area and prohibit grazing above 6,000 feet in elevation before June 1 of each year. To meet these and other requirements, various forms of intensive management and accompanying range improvements are needed.

Since this statement deals strictly with livestock grazing, it addresses wildlife, watershed, and other resource objectives only as they impact or are impacted by livestock grazing.

Recreation use in Paiute Primitive Area has never reached its anticipated level, and livestock grazing was not excluded when the area received its primitive designation. The MFP thus recommended basing livestock use on the suitability of the area for livestock grazing rather than on recreation.

The MFP did not recommend that livestock grazing be excluded from the Virgin River Gorge Recreation Lands, since no conflicts were identified there. Table 1-9 on page 37 identifies a conflict between livestock grazing and riparian zones along the Virgin River. As the table indicates, certain areas may be removed from livestock use following completion of a habitat study there. This area, however, lies between the mouth of the gorge and the Nevada State line and is not within the gorge.

Livestock grazing during the spring on tortoise habitat would be allowed only if use is light and dispersed and if tortoise concentration areas are fenced to exclude livestock.

21-2 See page 186 for a discussion of our method of determining suitability. The figure 208,754 acres is correct. Page 156 shows only a table titled "Summary of Anticipated Livestock Performance Impacts."

21-3 See Arizona Strip District Manager's Statement.

21-4 Resource conservation AUMs are derived from AUMs in rested pastures and AUMs not grazed under moderate utilization below 50 percent. Riparian habitat is protected by fencing. See page 29, item 11.

BLM has found that most readers know the processes involved in land treatment and developing waters. Thus to shorten the EIS, the processes as described in earlier statements were removed. Yours is the first comment about their absence.

21-5 Most of the EIS area's riparian areas other than the Virgin River consist of seeps and springs. Sullivans and Gates Mullen Springs in the Paiute Primitive Area are two large springs needing protection, which are to be fenced in fiscal year 1981. The area has other springs and seeps, some naturally protected and others not. Many are small, unharmed, and intermittent and do not warrant fencing. Others will be protected only after the feasibility of fencing is determined. The entire Virgin River does not need to be fenced. BLM is reducing the number of sites to be fenced to those accessible to livestock and whose vegetation needs protection.

That our statement seems ambiguous reflects our lack of knowledge of how many springs and other riparian areas need fencing. As time and staff levels permit, the protection will be provided.

21-6 The land treatment areas are identified on the Vegetation and Soil Association Map (plate 2) and by allotment in table 1-6, page 27. All land treatments and range improvements were proposed without AMPs. This interim EIS was written before AMP development. As AMPs are developed, required clearances will be obtained, and the location of each land treatment and range improvement will be determined. All AMPs will then be subject to benefit-cost analysis. Proposed land treatments lacking cost effectiveness and ecologically unsound will not be applied. The location of the proposed land treatments are estimates based on target vegetation and soils.

Successes, compatibilities, and failures of land treatments are discussed on pages 65, 97, 106, 112, 117, and 144. Properly applied vegetation manipulation can have many beneficial impacts. Table 2-13, page 66 reports on research that found more nongame bird species and breeding bird pairs in chained areas than in nonchained areas.

Design restrictions on land treatment are controlled by policy, which mandates that land treatment clearings be small and patchy and fit naturally into the landscape. All land treatment since 1970 has followed this policy.

22

St. George, Utah
February 13, 1980

Dear Mr. Whitlock:

Once again I would like to welcome you back to the great state of Arizona and to say I am looking forward to working with you in your new assignment.

These are some of my comments on the Shivwits Proposed Grazing Management Draft Environmental Impact Statement.

FIRST, I WOULD LIKE TO REFER TO A LOOSE SHEET THAT CAME WITH THE STATEMENT ENTITLED, "SHIVWITS PROPOSED GRAZING MANAGEMENT" WHEREIN IT SAYS, "The proposed range improvements would degrade the area's scenery." I TAKE EXCEPTION TO THIS FOR THE FOLLOWING REASONS: THERE HAVE BEEN A LOT OF GOOD IMPROVEMENTS PUT ON THE LAND AT GREAT COSTS. THESE IMPROVEMENTS HAVE MADE THESE LANDS USEABLE. WHEN I GO THROUGH A COUNTRY, IT LOOKS LOTS MORE APPEALING TO ME IF IT HAS IMPROVEMENTS ON AND LOOKS LIKE IT IS PRODUCING SOMETHING OF BENEFICIAL USE. I REMEMBER WHEN THESE LANDS HAD VERY FEW IMPROVEMENTS.

THE BLM HAS DONE LOTS OF GOOD THINGS ON THE FEDERAL RANGE. I EVEN THINK THEY HAVE DONE A BETTER JOB THAN THEY ADMITTED TO DOING IN THE LAWSUIT BETWEEN THE BLM AND NRDC. THEY NEED TO BE COMMENDED FOR THE JOB THEY HAVE DONE ON THE SHIVWITS PROPOSED GRAZING MANAGEMENT ENVIRONMENTAL IMPACT STATEMENT; FOR THE SIZE OF IT AND THE EFFORT THAT HAS BEEN PUT INTO IT. I THINK THIS IS AN IMPROVEMENT OVER ANY OF THE STATEMENTS UP TO DATE.

WE HAVE GONE DOWN THIS PATH LONG ENOUGH OF LOCKING UP OUR RESOURCES OR NOT USING THEM. IT IS TIME WE REALIZED WE NEED TO USE OUR NATURAL RESOURCES, WHETHER IT BE FOR FOOD AND FIBER, ENERGY, YOU NAME IT. WE CAN BE AND NEED TO BE AS SELF SUFFICIENT AS POSSIBLE IN THIS GREAT UNITED STATES OF OURS.

WE ARE STILL NUMBER ONE IN THE WORLD AND WE NEED TO STAY IN THAT POSITION.

Summary

I HOPE THE BLM DOESN'T GET HUNG UP ON THE 50% UTILIZATION CONCEPT TO THE EXTENT THEY DON'T USE GOOD JUDGMENT ------- ALSO INTENSIVE MANAGEMENT TO THE EXTENT WE CAN't LIVE WITH IT.

Page 4

--with reference to animals.
THERE IS TOO MUCH EMPHASIS ON WILD LIFE. IN READING THIS PAGE AND SEVERAL OTHERS YOU COULD GET THE IMPRESSION THE BLM HAD SOLD OUT TO WILD LIFE. YOU NEED TO REMEMBER THAT SINCE 1934 OR SOON AFTER, THIS AREA HAS BEEN ADJUDICATED AND ALLOTTED FOR LIVESTOCK USE AND MOST OF THE GAME THE BLM IS SPENDING SO MUCH TIME AND MONEY WITH, ARE TRYING TO INTRODUCE OR SOME SAY REINTRODUCE THESE ANIMALS ON TOP OF ALREADY EXISTING RIGHTS.

Page 5

Visual Resources:
"Of the provisions of the proposed action and alternatives, range improvement construction would have the greatest impact on visual resources. Many of the impacts, however, would be short term and could be naturally mitigated through revegetation. Catchment and reservoir construction would highly disturb the form, color, and texture of the landscape, and vegetation disturbance caused by cattle grazing and trampling would have a moderate adverse long term visual impact on 35 acres around each water.

Eliminating grazing on federal lands would generally benefit visual resources by improving vegetation cover. The 423 miles of new fence, however, would intrude on the natural landscape, creating a vegetation contrast that would be apparent where private and state land adjoin nongrazed federal lands."

I THINK THE VISUAL IMPACT OF RANGE IMPROVEMENTS HAS BEEN BLOWN WAY OUT OF PROPORTION AND REMEMBER, THIS IS JUST ONE MAN'S OPINION. THEY ARE NO MORE DEGRADING THAN A GOVERNMENT PICKUP WITH A RANGE TECHNICIAN IN IT OUT ON THE RANGE.

AS FOR ELIMINATING GRAZING ON FEDERAL LANDS TO BENEFIT VISUAL RESOURCES, HERE AGAIN I THINK THIS IS AN ERRONEOUS STATEMENT. THESE LANDS WERE MEANT TO BE GRAZED. IT IS THE NATURAL AND BEST PLAN FOR THEM. WE COULD ELIMINATE GRAZING AND BUILD UP MORE FIRE TRAPS. WHILE I AM WRITING THIS, I AM LOOKING AT A BIG HILL THAT WAS BURNED LAST SUMMER----MOST OF THE FIRE OCCURRED WHERE THERE HAD BEEN NO GRAZING FOR SEVERAL YEARS.

cont. page 5

Recreation:

"The proposed action and alternatives would both benefit and interfere with outdoor recreation in the EIS area. All alternatives except full stocking and no action in the long term would benefit hunting. Improved forage and new water sources would aid mule deer and antelope populations. Land treatment on pinyon juniper would benefit small game, but treatment on sagebrush and blackbrush would destroy small game cover.

Eliminating grazing would improve vegetation species, composition, and diversity, benefiting big and small game and moderately improving hunting quality, opportunity and visitor use. installing 423 Miles of new fence would restrict vehicular access for hunters but new obstructions would be offset by the removal of 931 miles of existing fence.

Permitting higher forage utilization, the full stocking alternative would increase livestock conflicts with big and small game. Adversely affecting the quality and opportunity for hunting. The no action alternative would perpetuate the population decline of both big and small game.

Under all alternatives, visitor use for sight seeing, primitive experiences, and off road vehicles would remain low. Under the proposed action and alternatives 1, 2, and 3 range improvement intrusions would lower scenic values, just as their removal under the elimination of grazing would improve scenic values, decrease access and vandalism, and decrease ORV opportunity and use and the quality of the ORV experience. ORV use would slightly increase under all alternatives except elimination of grazing."

UNDER THESE PARAGRAPHS THE EIS TEAM IS USING SOME PRETTY BROAD STATEMENTS AND ONCE AGAIN ARE VERY SLANTED AWAY FROM LIVESTOCK GRAZING. WITH THE EXCEPTION OF THE GRAND CANYON AND PARIA CANYON, THIS AREA IS NOT A HIGHLY SCENIC AREA AND IN MY OPINION, IS BEST ADAPTED FOR DOMESTIC LIVESTOCK GRAZING. I HAVE TO KEEP HITTING THE LIVESTOCK SIDE OF THINGS PRETTY GOOD AS I STUDY THROUGH THIS STATEMENT, THERE IS NO QUESTION IN MY MIND WHAT FIELDS OF TRAINING THOSE PEOPLE WRITING IT ARE IN.

Economic and Social Conditions:

I QUESTION WHETHER THE BLM HAS COMPARED 'apples with apples! IT LOOKS TO ME AS IF THEY HAVE TAKEN A SURROUNDING FOUR-STATE ECONOMIC AREA AND COMPARED IT WITH THE SHIVWITS AREA ALONE.

page 9

Purpose and Needs:

THIS STATES "The livestock use must be reduced to a level that the range ecosystem can reliably support." I THINK THE BLM IS GETTING TOO LIBERAL WITH THE WORDS, 'livestock being reduced.' IT SHOULD READ, 'livestock use should be at a level---' INSTEAD OF 'reduced to a level.' THIS SOUNDS LIKE THE BLM HAD THEIR MINDS MADE UP TO REDUCTIONS BEFORE THEY EVEN MADE THEIR SURVEYS.

page 13

IT SOUNDS AS IF THE BLM IS SUGGESTING PUTTING 'Last Chance" AND 'Link Spring' ALLOTMENTS TOGETHER. I AM ACQUAINTED WITH BOTH ALLOTMENTS AND BOTH PARTIES INVOLVED AND I FEEL THIS WOULD BE A VERY SERIOUS MISTAKE.

page 19

I THINK THERE ARE SEVERAL INACCURACIES AS TO NUMBER IN SOME OF THESE ALLOTMENTS WITH EPHEMERAL RANGES. I FEEL THE BLM NEEDS TO TAKE ANOTHER LOOK AT SEASON OF USE i e QUAIL CANYON - 6 MONTH WITH NO USE DURING A GROWING SEASON. I FEEL AND HAVE HEARD FROM TOP BLM MEN IN WASHINGTON JUST RECENTLY, THAT TIME OFF FROM THIS DESERT RANGE IN THE SPRING ISN'T NECESSARY OR EVEN USING GOOD JUDGMENT.

WE ARE INVOLVED IN TWO ALLOTMENTS UNDER THE DEFERRED ROTATION SYSTEM i e MAINSTREET AND POVERTY. THE FIGURES USED ON THIS PAGE ARE ALL WRONG AND BLM HAS CORRECTED THEM WITH US AND THERE IS NO PROBLEM WITH US ON THIS MATTER. I ONLY MENTION IT BECAUSE I DON'T HAVE TIME TO CHECK ALL THE OTHERS OUT AND I JUST WONDER HOW THEY ARE FOR ACCURACY.

page 21 - 26

THERE ARE LOTS OF GOOD THINGS TALKED ABOUT BUT HOPEFULLY THE BLM WILL WORK CLOSELY WITH THE PERMITTEES AND USE GOOD SOUND JUDGMENT IN EACH INDIVIDUAL CASE.

page 29

HERE AGAIN, I THINK THE BLM IS GETTING HUNG UP ON WILDLIFE. THEY NOW HAVE ACCESS TO ALL WATERS AND I DON'T LIKE THEIR NEW DESIGN OF FENCE. IT IS TOO HIGH OFF THE GROUND AND GAME DON'T NEED FREE ACCESS ALL ALONG A FENCE. THIS IDEA OF MODIFYING ALL EXISTING FENCES IN WILDLIFE HABITAT AREAS IS RIDICULOUS, UNNECESSARY AND TOO EXPENSIVE. YES, WE HAVE AN ENERGY SHORTAGE BUT I THINK WE ARE SHORTER ON MONEY THAN SOME PEOPLE THINK WE ARE. IN MY OPINION, THIS IS ONE COST WE CAN ELIMINATE.

Design Restriction #8

"Waters will not be turned off except to prevent freezing or malfunction" WE HAVE TO HAVE MORE FLEXABILITY THAN THAT AS THERE WILL BE TIMES WHEN THESE WATERS WILL NEED TO BE SHUT OFF FOR SHORT PERIODS OF TIME TO GATHER LIVESTOCK OUT OF THE ROUGHER AND OUT OF THE WAY PLACES.

Riparian Areas:
I THINK WE ARE JUST GETTING LURED AWAY BY A FANCY WORD. THERE JUST AREN'T ANY OF THESE IN OUR AREA.

page 35

I LIKE ALTERNATIVE I --- Full Stocking with Management. I HOPE WE WILL USE GOOD MANAGEMENT. YOU KNOW IF WE WERE TO ELIMINATE GRAZING WE COULD REALLY GET INTO THE RANGE FIRE BUSINESS AND I DON'T THINK ANY ONE OF US WANT THAT.

page 48

Apparent Trend:
"Appendix 3-1 shows apparent trend as static on all allotments except the 16 under implemented amps. Trend for these allotments is shown in Chapter 3, vegetation. Apparent trend, however, is a risky estimation, which carries little value. It can only be measured, as in amp studies, at different points over several years."

THIS IS A GOOD STATEMENT -- WE SHOULD BE CONCERNED ABOUT KEEPING THE RANGE IN A HEALTHY CONDITION.

page 51 - 56

72 22-1 SEDIMENT YIELD ON CHART TABLE 2-8 LISTS MAINSTREET 57.3, ONE OF THE HIGHEST OF ANY ALLOTMENTS. I QUESTION THE ACCURACY ON THIS. AS WE OBSERVE IT, IT IS LOW IN SEDIMENT DEPOSITS COMPARED TO THE STEEPER AREAS AND PLACES WITH LIGHTER SOILS.

page 57

Mule deer:
I BELIEVE PREDATORS HAVE MORE INFLUENCE IN THE BUILD-UP OF DEER HERDS THAN SOME PEOPLE WOULD LIKE TO ADMIT. TO SAY THESE DEER RANGES ARE IN POOR CONDITON, I QUESTION ----- THEY MAY NOT BE VERY GOOD RANGES.

page 60

Desert Big-horned Sheep:
I DON'T THINK THEY WILL EVER BE A THREAT TO THE COUNTRY. THEY ARE A WILD ANIMAL, THEY LIKE ROUGH PLACES, THEREFORE THEY DON'T HAVE A DIRECT CONFLICT WITH LIVESTOCK. THE BIGGEST PROBLEM WITH THEM AS I SEE IT IS WITH THE PEOPLE HANDLING THE PROGRAM AND IN THE EXPENSE THEY ARE GOING TO FOR WHAT BENEFIT WILL RESULT FROM IT.
Pronghorn Antelope:
IN THE HORSE & BURRO ACT, IT STATES THAT THESE ANIMALS COULDN'T BE INTRODUCED WHERE THEY DIDN'T EXIST AT THE TIME OF THE PASSAGE OF THE ACT. THE ANTELOPE WERE EXTINCT IN THE SHIVWITS AREA LONG BEFORE THERE WAS A BLM BUT THE BLM STILL BROUGHT THEM IN AND NOW ARE TRYING TO TAKE ACTION PRIVILEGES AWAY FROM RANCHERS

WITH NO COMPENSATION FOR THE LOSS TO MAKE ROOM FOR THEM. I THINK IT IS AN OUTRIGHT 'steal' ON THE PART OF THE BLM. THESE ARE THE KIND OF THINGS THAT ARE PUSHING THE SAGEBRUSH REBELLION, ALONG WITH WATER FILINGS ON TOP OF WATER FILINGS, UNREASONABLE SEASONS OF USE, AND UNREASONABLE RESTROTATION SYSTEMS.
Mule Deer:
THEY HAVE ALWAYS BEEN HERE AND IN MOST CASES AREN'T THAT BIG OF A PROBLEM. UNDER THE PRESENT MANAGEMENT SYSTEM FOR DEER, IT DOESN'T LOOK LIKE THEY HAVE A VERY GOOD CHANCE OF INCREASING.

page 65

Waterfowl and Shorebirds:
WE ARE IN A DRY COUNTRY WITH A SHORTAGE OF FULL TIME WATER. WE WILL ALWAYS HAVE SOME OF THESE BIRDS AND WE LIKE TO HAVE THEM BUT TO TRY AND BUILD A MAJOR HABITAT FOR THEM IN THIS REGION WOULD IN MY OPINION, BE A WASTE.

page 67

THE DESERT TORTOISE AND THE FISH BUSINESS IN THIS AREA HAVE BEEN WAY OVER-EMPHASIZED AND THEY ARE NOT GOING TO CHANGE MUCH ONE WAY OR ANOTHER.

page 73

Burros:
WE COULD GET ALONG WITHOUT THESE ANIMALS AND THE DESIGNATED AREA WOULD BE A GOOD BIG-HORNED SHEEP AREA.

page 102

I AM GLAD TO SEE THE BLM RECOGNIZE RAINFALL ACUTELY AFFECTS TREND IN THIS ZONE AS ONE OF OUR DISTRICT MANAGERS SAID ON ONE OCCASION THAT RAIN DIDN'T MAKE ANY DIFFERENCE.

page 119

Grazing systems:
YOU COULD GET THE IMPRESSION THE ONLY WAY YOU COULD GET A GRAZING SYSTEM APPROVED WITH THE BLM IS TO FIRST SATISFY WILDLIFE PEOPLE. IT HASN'T ALWAYS BEEN THAT WAY AND I WOULD SUGGEST THAT IN HIRING NEW PEOPLE, YOU TRY TO GET SOMEONE WITH SOME LIVESTOCK MANAGEMENT BACKGROUND.

page 120-138

I AM NOT ACQUAINTED WITH YOUR TERMINOLOGY ENOUGH TO GET MUCH OUT OF THIS GROUP OF CHARTS. HOPE THEY ARE RIGHT AND HAVE SOME VALUE.

page 142

Water Developments:

THIS MENTIONS THE 80,000 GALLON WATER CATCHMENTS WHICH ARE ONE OF THE BEST THINGS THE BLM HAS DONE --- BUILDING THEM IN AREAS WHERE OTHER WATERS COULD NOT BE DEVELOPED WHICH GIVES BETTER DISTRIBUTION TO ALL ANIMALS.

Shoreline Habitats or Unfenced Reservoirs:

MOST PONDS GO DRY SOMETIME IN THIS AREA AND THEY REQUIRE A LOT OF TRAMPLING TO HOLD WATER. THEREFORE, I FEEL IT IS MORE IMPORTANT THAT WE HAVE A POND WITH WATER IN THAN HAVING A DRY POND WITH SOME KIND OF A SHORELINE HABITAT.

page 143 Table 3-9

THE AREAS TERMED DEGRADED AREAS AROUND WATER DEVELOPMENTS ARE NOT NEAR AS DEGRADING AS SOME PEOPLE WOULD LIKE TO MAKE THEM SOUND. IN MOST CASES THEY ENHANCE THE VALUE OF THE SURROUNDING AREA. AFORTIORI, THESE AREAS ARE PREEMINENTALLY IMPORTANT TO THIS KIND OF OPERATION IN THE SHIVWITS DISTRICT AS IT IS ALMOST TOTALLY DEPENDANT UPON RESERVOIRS AND CATCHMENTS FOR ITS WATER SUPPLY.

page 147

Burros:

"The burros in the Tassi allotment would generally benefit from the proposed action and its alternatives. Adverse impacts would be negligible except those noted below.

Intensive management under the proposed action and alternatives 1, 2, and 3 would provide water where none now exists and would give burros additional year-round rnage. Each alternative would allocate 500 AUMs of forage to burros, enough to support up to 100 burros. Low stocking levels and a rest rotation grazing system would help protect vegetation and ensure adequate forage for burros. Year round waters would be required in each pasture to accommodate burros.

Fences required to implement a grazing system would inhibit burro movement to an unknown extent. The type of fence required to hold livestock but allow burros passage is also unknown." (BURROS ARE LIVESTOCK.)

I QUESTION WHETHER THEY WILL EVER COME UP WITH A FENCE THAT WILL HOLD LIVESTOCK AND LET BURROS PASS. I RECOMMEND WE GET RID OF THE BURROS IN THIS AREA AND ALLOCATE THEIR FORAGE TO BIG HORNED SHEEP.

IT IS MY OPINION AND MR. TEMPLETON ASSURES ME THAT THIS EIS IS NOT A DECISION DOCUMENT. THERE IS A LOT OF GOOD INFORMATION AND MATERIAL IN IT. HOPEFULLY, THROUGH A COOPERATIVE EFFORT WITH THE BLM AND THE RANCHING COMMUNITY WE CAN AND I THINK WE CAN WORK OUT A WORKABLE PLAN FOR ALL CONCERNED.

Sincerely yours,

RUDGER C. ATKIN INC.

Clayton Atkin

Response:

22-1 The 57.3 figure represents the total sediment yield for the allotment. This is one of the larger allotments, and the total sediment yield is high. The sediment yield per square mile, however, is only slightly greater than the average for the total EIS area.

23

St. George, Utah
February 13, 1980

Dear Mr. Whitlock:

Once again I would like to welcome you back to the great state of Arizona and to say I am looking forward to working with you in your new assignment.

These are some of my comments on the Shivwits Proposed Grazing Management Draft Environmental Impact Statement.

FIRST, I WOULD LIKE TO REFER TO A LOOSE SHEET THAT CAME WITH THE STATEMENT ENTITLED, "SHIVWITS PROPOSED GRAZING MANAGEMENT" WHEREIN IT SAYS, "The proposed range improvements would degrade the area's scenery." I TAKE EXCEPTION TO THIS FOR THE FOLLOWING REASONS: THERE HAVE BEEN A LOT OF GOOD IMPROVEMENTS PUT ON THE LAND AT GREAT COSTS. THESE IMPROVEMENTS HAVE MADE THESE LANDS USEABLE. WHEN I GO THROUGH A COUNTRY, IT LOOKS LOTS MORE APPEALING TO ME IF IT HAS IMPROVEMENTS ON AND LOOKS LIKE IT IS PRODUCING SOMETHING OF BENEFICIAL USE. I REMEMBER WHEN THESE LANDS HAD VERY FEW IMPROVEMENTS.

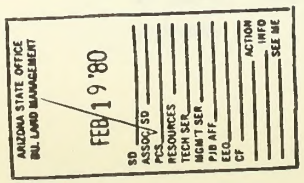
THE BLM HAS DONE LOTS OF GOOD THINGS ON THE FEDERAL RANGE. I EVEN THINK THEY HAVE DONE A BETTER JOB THAN THEY ADMITTED TO DOING IN THE LAWSUIT BETWEEN THE BLM AND NRDC. THEY NEED TO BE COMMENDED FOR THE JOB THEY HAVE DONE ON THE SHIVWITS PROPOSED GRAZING MANAGEMENT ENVIRONMENTAL IMPACT STATEMENT; FOR THE SIZE OF IT AND THE EFFORT THAT HAS BEEN PUT INTO IT. I THINK THIS IS AN IMPROVEMENT OVER ANY OF THE STATEMENTS UP TO DATE.

WE HAVE GONE DOWN THIS PATH LONG ENOUGH OF LOCKING UP OUR RESOURCES OR NOT USING THEM. IT IS TIME WE REALIZED WE NEED TO USE OUR NATURAL RESOURCES, WHETHER IT BE FOR FOOD AND FIBER, ENERGY, YOU NAME IT. WE CAN BE AND NEED TO BE AS SELF SUFFICIENT AS POSSIBLE IN THIS GREAT UNITED STATES OF OURS.

WE ARE STILL NUMBER ONE IN THE WORLD AND WE NEED TO STAY IN THAT POSITION.

My father and I have worked on this together and for that reason you will find our comments alike but that's the way we feel on what we've been able to cover. I do feel that the people that prepared this draft have been preparing + writing for more than a year and then we get only 45 days to do our homework and I don't know whether that's enough. Since I started into the cattle business a few years ago as a young man the BLM seems to have come at us from all directions. As a young cattleman on the federal ranges I'm very concerned about the future of what I'm involved in.

Note: Because letters 22 and 23 are identical, as is the response, we have omitted the bulk (pages 2-7) of letter 23, written by Brent Atkin.



United States Department of the Interior

NATIONAL PARK SERVICE
GRAND CANYON NATIONAL PARK
GRAND CANYON, ARIZONA 86023

IN REPLY REFER TO:
N16

FEB 22 1980

Arizona State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

Dear Mr. Whitlock:

Thank you for the opportunity to review and comment on the Shivwits Proposed Grazing Management Plan and Draft Environmental Impact Statement. We appreciate the difficulty in preparing these documents and commend your efforts at attempting to manage these national resources.

The following comments are offered as points we believe must be addressed in the final impact statement and also those we offer as suggestions you may wish to consider:

1. In general, the draft environmental statement for the proposed grazing management on the Shivwits resource area is clearly written and in conformity with the format of C.E.Q. regulations. However, the analysis of environmental impacts resulting from the proposal and several of the alternatives suffers from the document's own admission that there is a great lack of basic environmental information needed for the BLM to formulate final management decisions. It's realized, no agency is going to know every detail of its resource areas, but the D.E.S. points out a "lack of information" on: endangered and threatened species (page 48); predator/prey relationship (page 65); wildlife populations (page 57); riparian habitat (page 48); and the interrelationship of livestock grazing with wildlife populations (page 48).

It is realized the purpose of the BLM management on this land is grazing but, while we are aware of the BLM's deep concern for all units of the environment, the D.E.S. does not yet present the reader with the basic information needed to understand and fairly evaluate what will probably happen to the native wildlife, plant life, and cultural resources should this proposal be implemented. This is serious shortcoming in the document and prevents one from supporting the proposal based upon an evaluation of environmental impacts. We strongly urge the BLM to acquire the above data before finalizing the plan. Although we recognize the time required and the scope of this recommendation, we feel future criticism of the BLM will be avoided, and the natural resources better protected, if this information is provided. Those series of studies proposed as mitigation to the proposed action (page 31) would best be conducted prior to the implementation of the final management proposal.

2. The issue of understanding the full spectrum of environmental impacts tends to become clouded when these impacts are described with the use of words such as; "key species," "key areas" "improved forage," and "good vegetation conditions." These phrases apply specifically to grazing but have little application when evaluating impacts on other units of the plant and animal communities in the study area. The interpretation of an impact as being "good, beneficial, bad, or poor" is going to depend on one's point of view. Since the basic intent of N.E.P.A. is a simple disclosure of impacts regardless of their interpretation as being "good" or "bad", we suggest wording in the D.E.S. be modified to eliminate the above subjective phrases. An alternative might be to identify impacts in terms of "increasing available forage" or "reducing available forage" for livestock use. The reader must then decide as to the relative merits of these impacts.

3. The D.E.S. correctly realizes that some 128,334 acres of land within the study area lie within Grand Canyon National Park (page 36). Four allotments occurring in this study area are administered under terms of the June 21, 1976, Memorandum of Understanding between the B.L.M. and Grand Canyon National Park. D.E.S. should clarify the fact these allotments are scheduled to terminate by January 2, 1985 as directed by Public Law 93-620. The document should also explain the differences in the basic missions between the B.L.M., Lake Mead National Recreation Area, and Grand Canyon National Park. In addition, the D.E.S. should include a statement concerning the impacts of resource manipulations outlined in the proposal as they will relate to adjoining lands on the recreation area and the national park. Certainly the impacts of chaining on the pinyon-juniper woodland adjacent to the park is going to affect at least the aesthetics of the national park, if not more direct ecological impacts. Also, the initiation of prescribed burning projects in the pinyon-juniper area on the study area will need to be tied closely to the park's designation as a Class I "Prevention of of Significant Deterioration" Area as outlined in the Clean Air Act Amendment of 1977.

The D.E.S. would be strengthened by a statement of the regional ambient air quality and an analysis of probable impacts should the proposal be implemented. As a mitigation measure, the burning aspects of the proposal should be closely coordinated with the park's own prescribed fire management program which, in turn, is coordinated with the state's Bureau of Air Quality Control and the Arizona State Amendments to Rules and Regulations For Air Pollution Control (Jan. 3, 1979).

4. The document should respond to edicts of E.O. 11988 (Protection of Wetlands and E.O. 11990 (Floodplain Management) since it identifies both of these resources as existing in the study area. Basically this statement should include an inventory of the extent of each of these systems and a determination of environmental impacts resulting from the proposal.

5. The archeological resources in the study area will need extensive survey before implementation of the chaining or discing aspects of the proposal. More detailed information will be especially crucial to identify sites eligible for the National Register of Historic Places and to comply with Section 106 of the National Historic Preservation Act. Although the D.E.S. describes damage to archeological sites as being that of "moderately adverse" similar chaining operations in other areas of the Arizona Strip has shown that this damage is very high to total. The park archeologist at Grand Canyon would be more than willing to provide details of this impact. We suggest the DES state how these sites are to be protected if chaining and discing operations are implemented.

Other points which need to be included in appropriate sections of the D.E.S. include:

1. In Public Law 93-620 congress directed that an Adjacent Land Study be made to determine if lands now under BLM or Forest Service jurisdiction qualify for inclusion in Grand Canyon National Park. While the boundaries, if any, of such lands have not been identified and ultimate action cannot be predicted, BLM is a party to this study. The D.E.S. should mention this study and identify those proposed actions which could change the resource character of the land to the point where it would not qualify for inclusion in the national park.

2. The Shivwits Resource area is adjacent to lands in both Lake Mead National Recreation Area and Grand Canyon National Park which have been proposed for wilderness status. The impacts of BLM actions such as chaining, burning, and the like, will reach into these areas or be observable from them, and this should be analyzed in the D.E.S.

3. The issue of feral burro herds on BLM lands needs to be carefully explained as it relates to the national park and the recreation area. Since the park has been trying to eliminate burros from within its boundaries the D.E.S. should clarify the intent of the BLM to maintain burro herds under the Wild Free - Roaming Horse and Burro Act of 1971 and how conflicts and cooperation with adjoining federally administered areas will be resolved.

4. The Threatened And Endangered Plant Species section (page 48) should be updated to reflect current U.S. Fish and Wildlife Service listings of

these plants (Jan. 17, 1979). The Smithsonian list has no status under law and we would recommend this reference be eliminated from the document.

5. The reference to ORV use on NPS "roads and trails" (page 83) should be changed to eliminate references to ORV use on trails.

6. On page 107 of the D.E.S. the statement is made that the proposed action or its alternatives will not change the Pinion-Juniper woodland subtype. Two paragraphs later, it is pointed out that 85,760 acres of this subtype will be double-chained under the proposal with a resultant kill of 28% to 90% of the trees. This is approximately 20% of this vegetation subtype. If the table on page 66 is reasonably accurate, some 110,000 breeding pairs of birds will have their nesting habitat destroyed. Chaining will undoubtedly produce dramatic changes in this vegetation subtype. In view of the limited knowledge concerning the wildife on the Shivwits area, would it not be wiser to postpone chaining and discing operations until the wildlife surveys are completed and a thorough evaluation of the environmental impacts on these natural resources could be made?

Once again, we offer these comments in support of your attempts at managing an extremely complex problem. The park appreciates the obvious hard work the BLM has put into this document and the myriad of issues which needed to be addressed. However, in view of the number of unknown natural resources factors identified in the D.E.S. we would recommend the proposal be postponed until these data are available or substitute Alternative Number 4 (No Action) in the final management plan and F.E.S.

Sincerely,

Bruce W. Shaw

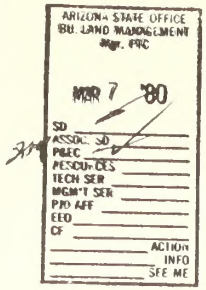
Bruce Shaw
Acting Superintendent

ARIZONA DEPARTMENT OF HEALTH SERVICES

Division of Environmental Health Services

BRUCE BABBITT, Governor
SUZANNE DANDOY, M.D., M.P.H., Director

March 6, 1980



Arizona State Director
Bureau of Land Management
2400 Valley Bank Center
Phoenix, Arizona 85073

Dear Sir:

The staff of the Bureau of Water Quality Control has reviewed the Draft EIS for the Shivwits Proposed Grazing Management Program. If the proposed actions are implemented, there will be a significant reduction in sediment to streams in the area. Reduced overland flow may also diminish salinity loadings to the Virgin and Colorado Rivers.

Hence, we fully support the program's objectives from the water quality perspective. Please contact us for any additional questions.

Yours truly,

DEAN MOSS
Manager, Planning Section
BWQC

DM/sb

77

State Health Building 1740 West Adams Street Phoenix, Arizona 85007

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Governor
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Environmental Coordinating Committee
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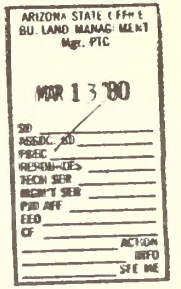
Human Resources Coordinating Committee
533-4981

A/85
Federal/State Coordination
533-6083

Federal Resource Information Center
533-4983



March 10, 1980

B. Buffington, State Director
U.S. Deptartment of the Interior/BLM
Arizona State Office
2400 Valley Bank Center
Phoenix, Arizona 85073

RE: Draft EIS, Shivwits Proposed Grazinging Management. (SAI #790216108)

Dear Mr. Buffington:

The Utah State Environmental Coordinating Committee has reviewed the information in the Draft EIS, Shivwits Proposed Grazing Management.

The only agency choosing to comment at this time is the Division of Wildlife Resources; these comments are enclosed for your information.

Thank you for the opportunity to review and comment on this material.

Sincerely,

Lee M. Allen
A-95 Coordinator

LMA:ba
Enclosure

state of utah

DIVISION OF WILDLIFE RESOURCES
EQUAL OPPORTUNITY EMPLOYER
DOUGLAS F. DAY
Director
1596 West North Temple/Salt Lake City, Utah 84116/801-533-9333

February 13, 1980

Mr. Lee Allen
A95 Coordinator
State Planning Office
State Capitol
Salt Lake City, Utah 84114

Dear Lee:

We have reviewed the Draft Environmental Statement, Shivwits Proposed Grazing Management, and find that, of 1,848,894 acres that are covered by this program, only 16,180 acres are in Utah. No mention of any action is found for the Utah portion, so we assume that Utah's area will remain in a "status quo" state. However, we do have the following comments and suggestions which should be considered in Utah.

As noted in the statement (Upland Game pg. 64), "The lack of adequate cover in drainage areas (wash and canyon habitats) prevents quail from feeding and the lack of escape cover around water prevents quail from obtaining drinking water." The proposed action would have a high detrimental effect on 47 miles of aquatic and riparian habitats in the Virgin River-Beaver Dam Wash areas (Table 3-7, pg. 130). Therefore, fencing of aquatic and riparian habitats should be increased above the proposed level to provide access to water and cover for quail.

This area includes the Virgin River Gorge Recreation Area (as outlined on pg. 82). Increased fencing to enhance aquatic and riparian habitats in this area would also increase aesthetic values in the area.

With additional fencing around springs and seeps (both developed and undeveloped), around developed water sources, such as troughs and catchments, and along riparian zones and with provisions for ground water availability, the negative impacts of grazing could be minimized. We could then support the proposed action or alternative No. 3, which would be better for wildlife.

We appreciate the opportunity to comment on this proposed action.

Sincerely,

Douglas F. Day
Director

27

Arizona
State Land Department
1624 WEST ADAMS
PHOENIX, ARIZONA 85007

Bruce Babbitt
Governor

Joe T. Fellini
Commissioner

P+EC

ARIZONA STATE OFFICE
BU. LAND MANAGEMENT
Mgr. PIC
MAR 11 '80
SD 1
ASSOC. SD
P&EC
RESOURCES
TECH SER
MGM'T SER
PIO AFF
EED
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ACTION
INFO
SEE ME

M: cc Res. and P&EC

March 7, 1980

Mr. Clair M. Whitlock
Arizona State Director
Bureau of Land Management
2400 Valley Center
Phoenix, AZ 85073

Dear Mr. Whitlock:

The staff of the Arizona State Land Department has reviewed the Bureau of Land Management's Draft Environmental Statement proposing a livestock grazing program in the Shivwits Resource Area. Approximately 82,000 acres of State Trust land lie within the ES area, and, for the most part, consist of randomly scattered tracts intermingled with the private and public lands. Historically, the Department's stated objective for the management of Trust lands under the Enabling Act is for maximum sustained production of food, fibre and the timely recovery of minerals. Because of the interspersed land ownership pattern within the ES area, any management action the Bureau proposes for the federal lands will surely influence the use of the State Trust lands.

The following comments are offered for consideration in future deliberation on the proposed action.

1. Where State land is involved, the combination of allotments into singular or community allotments will require changes in State leases or filing of subleases for those allottees now holding a current State lease. This is required under Arizona Revised Statutes 37-283. Prior to final determination by your agency all of the issues relative to the use of State land by multiple allottees should be settled.

2. Discrepancy exists in the Document (Table 1-2) regarding the amounts of State Trust land in the following allotments: Grassie Mountain (5117 ac.); Littlefield Community (1949 ac.); Lizard (8315 ac.) Mosby-Nay (2320 ac.); Wolfhole Canyon (2884 ac.). Acres in parenthesis reflect Departmental records. It is suggested that the Bureau and the State Land Department coordinate efforts to determine correct State acreage figures within each allotment as well as in the other allotments not listed above.

3. As proposed, the reduction of livestock numbers prior to the completion of improvements for management system implementation may have only limited value for vegetative improvement, while maximizing the negative economic impact to the rancher. Before final determination, each allotment should be reviewed in detail and every effort should be made to minimize the negative economic impact to the

rancher.

4. Range improvements such as stock tanks, fencing, land treatment, etc. proposed on State Trust land will require a proper application to place and approval prior to construction. In view of this it is important that the State Land Department participate in the planning of these improvements to the extent possible.

5. The estimated livestock carrying capacity on State lands (Table 1-2) by the Bureau is substantially lower than the current established carrying capacity as well as the recently completed State rangeland inventory estimates. It is suggested that the BLM and State Land Department review those allotments reflecting these estimated decreases in order to work out reasonable solutions prior to AMP development.

Generally the document appears to be relatively complete and technically sound in the use of range management principles.

In conclusion the Department feels the land ownership pattern in the Shivwits ES area requires that the BLM, State Land Department and private interests plan the use of the area's range resources together so that possible conflicts may be resolved in a mutual manner.

We appreciate the opportunity to review and comment on the document and your continued cooperation.

Sincerely,

Kelly R. Johnson

Kelly R. Johnson, Director
Natural Resources Conservation Division

KRJ/RBO/tb

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